No. 82-2128

IN THE

Supreme Court of the United States

OCTOBER TERM, 1982

AMERICAN TELEPHONE AND TELEGRAPH COMPANY, WESTERN ELECTRIC COMPANY, INC., BELL TELEPHONE LABORATORIES, INC., NEW YORK TELEPHONE COMPANY, INC., NEW JERSEY BELL TELEPHONE COMPANY, SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY, THE OHIO BELL TELEPHONE COMPANY, SOUTHWESTERN BELL TELEPHONE COMPANY, THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY, and PACIFIC NORTHWEST BELL TELEPHONE COMPANY,

Petitioners,

v.

LITTON SYSTEMS, INC., LITTON BUSINESS TELEPHONE SYSTEMS, INC., LITTON BUSINESS SYSTEMS, INC., and LITTON INDUSTRIES CREDIT CORPORATION,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Second Circuit

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APPENDIX TO BRIEF FOR THE RESPONDENTS IN OPPOSITION

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No. 81-2278

In the Supreme Court of the United States

OCTOBER TERM, 1982

UNION ELECTRIC COMPANY, PETITIONER

v.

CITY OF KIRKWOOD, MISSOURI

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE EIGHTH CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

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QUESTIONS PRESENTED

1. Whether a utility that charges wholesale and retail rates at levels that unfairly prevent its competitor-customers from competing with it ("price squeeze" conduct) is immune from the antitrust laws under the *Noerr-Pennington* doctrine solely because the rates were filed with state and federal regulatory agencies that did not order any changes creating or increasing the alleged anticompetitive effect.

2. Whether such an alleged "price squeeze" is immune from the federal antitrust laws by implication from the Federal Power Act, which creates no express antitrust exemption for wholesale electric rates subject to regulation by the Federal Energy Regulatory Commission and which confers no authority on FERC to regulate retail rates.

3. Whether such an alleged "price squeeze" is immune from the federal antitrust laws under the "state action" doctrine, where the conduct at issue is the result of essentially private decisions not compelled by the state, the state has articulated no policy in favor of the conduct at issue, and the state has no authority to regulate wholesale rates.

4. Whether electricity is a "commodity" within the meaning of the Robinson-Patman Act.

In the Supreme Court of the United States

OCTOBER TERM, 1982

No. 81-2278

UNION ELECTRIC COMPANY, PETITIONER

v.

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ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE EIGHTH CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

This brief is filed in response to the Court's invitation to the Solicitor General to express the views of the United States.

STATEMENT

1. Petitioner Union Electric Company (UE) is an electric utility that produces, transmits, and delivers electric power to wholesale and retail customers in Missouri, Iowa, and Illinois (Pet. App. A-3). Respondent (Kirkwood), a municipal corporation, sells electric power at retail to customers in approximately two-thirds of its geographic area (*ibid.*).

Kirkwood does not produce electricity, but buys it at wholesale from UE. Customers in the area of Kirkwood not served by the municipal distribution system buy power at retail from UE (*ibid.*).

UE's *wholesale* rates are regulated by the Federal Energy Regulatory Commission (FERC)[1] under the Federal Power Act, 16 U.S.C. (& Supp. V) 824 *et seq.* UE's *retail* rates are regulated by the Missouri Public Service Commission under Mo. Ann. Stat. ch. 393 (Vernon 1952 & Cum. Supp. 1982).

The Federal Power Act requires that all rates subject to FERC's jurisdiction be just and reasonable, and not unduly discriminatory or preferential. 16 U.S.C. 824d(a) and (b). Public utilities, such as UE, must file with FERC "schedules showing all [wholesale] rates and * * * all contracts which in any manner affect or relate to such rates." 16 U.S.C. 824d(c). Before making any modification of such rates, the utility must give 60 days notice to FERC and the public. 16 U.S.C. (Supp. V) 824d(d). On complaint or on its own initiative, FERC may order a hearing into the lawfulness of a filed rate change and may suspend the proposed change for up to seven months. 16 U.S.C. (Supp. V) 824d(d) and 16 U.S.C. 824d(e).[2] If FERC does not order a hearing on a proposed rate change, the new rate takes effect at the end of the 60-day notice period.

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[1] Prior to October 1, 1977, the Federal Power Commission (FPC) had essentially the same statutory authority insofar as is here relevant. References to FERC in this brief should be interpreted, where appropriate, as referring to the FPC.

[2] If a hearing is not completed before the expiration of the suspension period, the proposed rate schedule takes effect, but FERC may require the utility to refund with interest any portion of the increase subsequently found "not justified."

In addition, on its own motion or on complaint, FERC may order a hearing to determine whether any previously established rate or contract is "unjust, unreasonable, unduly discriminatory or preferential"; if it finds that it is, FERC may establish a just and reasonable rate or contract that the utility must observe. 16 U.S.C. 824e(a).

Missouri state law requires that utilities file their *retail* electric rates with the Missouri Public Service Commission (PSC). A retail rate cannot go into effect until the PSC approves it, but the PSC must act within 11 months after a rate proposal is filed. Mo. Ann. Stat. § 393.150 (Vernon Cum. Supp. 1982). The standard applied by the PSC in deciding whether to approve a rate is whether it is unjust, unreasonable, unjustly discriminatory, or unduly preferential. Mo. Ann. Stat. § 393.140(5) (Vernon Cum. 1982).

2. On September 1, 1977, Kirkwood filed a complaint alleging that UE had violated the Sherman Act, 15 U.S.C. 1 *et seq.*, and the Robinson-Patman Act, 15 U.S.C. 13 *et seq.* It sought damages and injunctive relief. The complaint alleged that UE had monopolized and attempted to monopolize the retail distribution and sale of electric power by imposing an anticompetitive "price squeeze" [3] on Kirkwood

[3] A "price squeeze" may arise in a situation in which a firm competes with its supplier. In the present case, Kirkwood is a retailer that competes with its wholesale supplier, UE, for retail business. Thus, if UE raises its wholesale prices to Kirkwood, but maintains its retail prices at a level that would not allow Kirkwood to make a profit based on its increased wholesale costs, then Kirkwood is subjected to a "price squeeze." Whether a "price squeeze" is anticompetitive depends on a number of factors, including the relative efficiency of the competing firms and whether the price relation complained of is attributable to the supplier's conduct rather than forced on the supplier by a public authority.

by manipulating the relationship between its wholesale rate to Kirkwood and its retail rates. In 1975, UE was alleged to have increased its wholesale rate for electric power by more than 33% while taking no action to increase its retail rates. Pet. App. A-30. As a result, Kirkwood alleged, it "paid approximately 35 percent more than Union was selling comparable power at retail to its large industrial primary service customers." *Ibid.* This practice, Kirkwood alleged, was similar to previous UE rate practices. Although UE subsequently increased its retail rates and reduced its wholesale rates somewhat (as a result of settlement of FPC proceedings), it was Kirkwood's contention that the price squeeze continued. *Id.* at A-31.

According to Kirkwood, the price squeeze caused antitrust injury by precluding Kirkwood from competing with UE for retail sales.[4] The complaint also alleged that the disparity between UE's wholesale and retail rates had substantially lessened competition between UE and Kirkwood, thus violating the Robinson-Patman Act, 15 U.S.C. 13(a).

3. The district court granted summary judgment for UE. Pet. App. A-19 to A-24.[5] The court held that

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[4] Kirkwood alleged that it was precluded from "selling power to its customers at retail at the same rates charged by [UE] at retail without impairing the traditional benefits derived by [Kirkwood] from its municipally owned system" (Pet. App. A-30 to A-31), and that this "result[ed] in a loss of revenues and/or pressure on the citizens and officials of [Kirkwood] to discontinue operating the utility and to offer to sell or lease it to [UE]" (*ibid.*).

[5] The district court had previously dismissed the Robinson-Patman Act claim on the grounds that electricity is not a "commodity" within the meaning of the Act and that the

Kirkwood's exclusive remedy for the alleged price squeeze was with the state and federal regulatory agencies. UE's rates, the court also held, were exempt from antitrust challenge because they were subject to federal regulation under the Federal Power Act and state regulation by the Missouri PSC. Finally, the court held that UE's filing of tariffs with FERC and the state commissions, and its collection of rates pursuant to those tariffs were immune from antitrust liability under the First Amendment and the *Noerr-Pennington* doctrine.[6]

4. The court of appeals reversed. It held that FERC and PSC did not have exclusive jurisdiction over the price squeeze claim. Pet. App. A-6 to A-11. Rather, the court held, under this Court's decisions in *Cantor* v. *Detroit Edison Co.*, 428 U.S. 579 (1976), and *Otter Tail Power Co.* v. *United States*, 410 U.S. 366 (1973) (*Otter Tail*), the antitrust laws are applicable to regulated utilities and an award of antitrust damages would not infringe on FERC's regulatory jurisdiction. The court of appeals further held that the price squeeze claims were not immunized by the state action doctrine because there was no legislative policy favoring the conduct at issue and because the interrelation of the wholesale and retail rates was not controlled by regulatory authorities. Finally, the court held that there was no immunity under *Noerr-Pennington* because: "It is not for expression of

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complaint did not sufficiently allege sales in interstate commerce. Kirkwood moved for reconsideration of that order, but the district court granted summary judgment in favor of UE without specifically ruling on that motion.

[6] *Eastern Railroad Presidents Conference* v. *Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961) (*Noerr*); *United Mine Workers* v. *Pennington*, 381 U.S. 657 (1965) (*Pennington*).

opinion that Kirkwood seeks to compel UE to respond in damages, but rather for UE's conduct in the market place." Pet. App. A-14 to A-15.[7]

DISCUSSION

The decision of the court of appeals is correct and does not conflict with any decision of this Court or any other court of appeals.[8] Review by this Court is therefore unwarranted.

1. Petitioner argues first that the alleged price squeeze[9] is immunized from antitrust scrutiny by the *Noerr-Pennington* doctrine. This argument was properly rejected by the court of appeals. The *Noerr-Pennington* doctrine reflects this Court's conclusion that "no violation of the [Sherman] Act can be predicated upon mere attempts to influence the passage or enforcement of laws." *Noerr*, *supra*, 365 U.S. at 135.

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[7] The court of appeals also held that electricity is a "commodity" for purposes of Kirkwood's Robinson-Patman Act claim.

[8] The court of appeals did not address the merits of respondent's antitrust claims. The fact that petitioner's conduct is not exempt from the antitrust laws does not, of course, establish an antitrust violation. See *Group Life & Health Insurance Co.* v. *Royal Drug Co.*, 440 U.S. 205, 210 n.5 (1979); *Union Labor Life Insurance Co.* v. *Pireno*, No. 81-389 (June 28, 1982), slip op. 5.

[9] A firm that has monopoly power is said to have engaged in a "price squeeze" and has violated Section 2 of the Sherman Act, 15 U.S.C. 2, if it discriminates against customers who are its competitors in another market (i.e., charges them higher prices not justified by differences in costs), if that discrimination unduly impedes competition, and if the monopolist's pricing is intended to have that effect. See *United States* v. *Aluminum Co. of America*, 148 F.2d 416, 436-438 (2d Cir. 1945).

In other words, Congress did not intend the antitrust laws to apply to attempts by private parties to obtain government action that would restrain competition—even where the result is subsequent government action that in fact imposes such a restraint.

Noerr-Pennington is inapplicable here, however, because Kirkwood did not base its complaint on the results of restrictive governmental action sought by UE or on UE's efforts to obtain such governmental action. Kirkwood does not challenge the legality of either the wholesale rate approved by FERC or the retail rate approved by the Missouri PSC. Rather, Kirkwood has alleged that it was injured by the relationship between those rates, decided upon and put into effect by a private party, UE, for the purpose of eliminating Kirkwood as a competitor. Since no regulatory body imposed, or had jurisdiction to impose, the combination of rates whose competitive effect is challenged, petitioner's *Noerr-Pennington* arguments were properly rejected by the court of appeals.[10]

Petitioner's argument that such private conduct is immunized merely because UE obtained governmental acquiescence or approval constitutes an unwarranted attempt to expand the *Noerr* doctrine, and is directly contrary to this Court's holding in *Cantor* v. *Detroit Edison Co.*, 428 U.S. 579, 601-602 (1976), that anticompetitive conduct pursuant to a tariff filed with a regulatory body is not immune from antitrust scrutiny.[11] See also *California* v. *FPC*, 369 U.S. 482, 488-

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[10] A similar *Noerr-Pennington* defense to a price squeeze claim was rejected by the Seventh Circuit in *City of Mishawaka* v. *American Electric Power Co.*, 616 F.2d 976, 981-983 (1980), cert. denied, 449 U.S. 1096 (1981).

[11] Petitioner contends (Pet. 7) that the court of appeals' reliance on *Cantor* was unjustified because the Court's refer-

489 (1962); *United States* v. *RCA*, 358 U.S. 334, 350-352 (1959). Indeed, in *Georgia* v. *Pennsylvania R.R.*, 324 U.S. 439 (1945), this Court held that private actions designed to influence rates that are subject to regulation are not immune from the antitrust laws because of subsequent regulatory adoption of the rates—a holding that has not been overruled by *Noerr* or any other decision.

2. Petitioner also contends (Pet. 9-12) that this Court's decision in *Gordon* v. *New York Stock Exchange, Inc.*, 422 U.S. 659 (1975), requires a holding that the Federal Power Act creates an implied[12] antitrust exemption for the price squeeze at issue in this case.[13] The court of appeals correctly rejected this argument.

The strict standards that govern judicial determination of implied antitrust immunity based on subse-

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ence to *Noerr* appears in a portion of Justice Stevens' opinion not concurred in by a majority of the Court (428 U.S. at 601-602) and because the *Cantor* decision did not turn on *Noerr-Pennington*. We believe reliance on *Cantor* was appropriate. No member of the Court expressed the view that the conduct at issue in *Cantor* was immunized by *Noerr*. Moreover, if a majority in *Cantor* had concluded that *Noerr* conferred immunity, there would have been no need to remand the case.

[12] The Federal Power Act contains no express antitrust exemption applicable to the conduct at issue in this case. In contrast, the Interstate Commerce Act, for example, provides an express and limited antitrust exemption for collective ratemaking agreements approved by the ICC. 49 U.S.C. (Supp. IV) 10706(a)(2)(A).

[13] Petitioner concedes (Pet. 9) that federal and state regulation of electric utilities has been held by this Court not to create any general exemption or immunity from the federal antitrust laws. *Otter Tail Power Co.* v. *United States*, 410 U.S. 366 (1973); *Cantor* v. *Detroit Edison Co.*, 428 U.S. 579 (1976).

quent regulatory statutes have been articulated by this Court in a long line of cases and "are well established." *National Gerimedical Hospital and Gerontology Center* v. *Blue Cross*, 452 U.S. 378, 388 (1981) (*National Gerimedical*). Exemptions from the antitrust laws are not favored; such exemptions " 'can be justified only by a convincing showing of clear repugnancy between the antitrust laws and the regulatory system.' " *National Gerimedical*, *supra*, 452 U.S. at 388, quoting *United States* v. *National Association of Securities Dealers, Inc.*, 422 U.S. 694, 719-720 (1975); see also *Gordon* v. *New York Stock Exchange, Inc.*, *supra*, 422 U.S. at 682; *United States* v. *Philadelphia National Bank*, 374 U.S. 321, 350-351 (1963); *Otter Tail Power Co.* v. *United States*, 410 U.S. 366, 372 (1973). Even then, repeal of the antitrust laws is implied narrowly, only to the minimum extent necessary to make the regulatory scheme work —so as to effectuate the fundamental principles of the antitrust laws to the maximum extent consistent with the regulatory scheme. *National Gerimedical*, *supra*; *Silver* v. *New York Stock Exchange*, 373 U.S. 341, 357-359 (1963).

It follows that no implied exemption should be found in this case because, contrary to petitioner's contention, there is no "clear repugnancy" between the Federal Power Act and the application of the Sherman Act to the conduct at issue. There is no indication in the language or legislative history of the Federal Power Act that it was intended to authorize a price squeeze. Nor is there any inherent inconsistency between the requirement of the Federal Power Act that rates be "just and reasonable" and the application of Section 2 of the Sherman Act to price

squeezes.[14] Thus, as in *Otter Tail*,[15] the conduct at issue here remains subject to the Sherman Act.

The situation is entirely different from that which led this Court to find implied immunity in *Gordon*. There, the implied exemption for the conduct at issue—the fixing of rates for brokerage commissions—was based on actual conflict between the antitrust laws and the applicable regulatory statute. The Court found that the securities laws were intended to authorize, subject to regulatory supervision, the fixing of brokerage commission rates, which otherwise would have constituted price fixing—a per se violation of the Sherman Act. It was Congress' authorization of the conduct at issue,[16] and not the mere

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[14] The possibility that conflict might arise in the future (if, for example, a price squeeze were proved and if the district court then ordered UE to remedy the price squeeze by lowering its wholesale rates to a level deemed unreasonably low by FERC) does not warrant a grant of immunity in the absence of any actual conflict. *Otter Tail, supra*, 410 U.S. at 376.

[15] Petitioner seeks to distinguish this case from *Otter Tail* and *Cantor* (a case that involved the state action exemption, see pages 12-13, *infra*) on the ground that (Pet. 9-10) "[t]he alleged violations of the antitrust laws in those cases involved various activities other than the filed electric rates" while in this case "the alleged violation is based *solely* on the economic effect of [UE's] rates * * *" (emphasis in original). This distinction, however, does not affect the basic principle applicable to this case: antitrust immunity will not be implied in the absence of actual conflict with a federal regulatory statute.

[16] Congress, of course, may authorize private conduct that otherwise would violate the antitrust laws. Under the Supremacy Clause (Article 6, Clause 2), however, states cannot override federal antitrust law. Therefore, the implied repeal doctrine does not apply to state legislation. This is to be distinguished from the state action doctrine, which recognizes

existence of federal regulatory authority to review conduct under a standard different from that of the Sherman Act, that led to a determination that the restraints at issue were immune from antitrust liability.[17]

Petitioner also is incorrect in contending (Pet. 13-14) that *FPC* v. *Conway Corp.*, 426 U.S. 721 (1976), precludes application of the Sherman Act to the alleged price squeeze. This Court held in *Conway* that the FPC has jurisdiction to consider the relationship between jurisdictional (wholesale) and nonjurisdictional (retail) rates in determining whether jurisdictional rates are just, reasonable and nondiscriminatory. *Conway* did not hold that the FPC's jurisdiction to consider price squeeze allegations was exclusive, and there is no indication that Congress intended to give FERC sole jurisdiction to consider and remedy

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that Congress did not intend the Sherman Act to prohibit restraints that are fairly attributable to state decisions to replace competition with state supervision and control rather than private conduct. *Parker* v. *Brown*, 317 U.S. 341, 350-351 (1943). Where conduct is fairly attributable to private parties it is subject to the Sherman Act even if approved by a state. *California Retail Liquor Dealers Association* v. *Midcal Aluminum, Inc.*, 445 U.S. 97, 106 (1980); *City of Lafayette* v. *Louisiana Power & Light Co.*, 435 U.S. 389, 415 n.45 (1978); *Cantor* v. *Detroit Edison Co.*, *supra*; *Parker* v. *Brown*, *supra*, 317 U.S. at 351.

[17] Thus, the fact that an agency must consider the competitive effects of action subject to its jurisdiction before approving it as consistent with the public interest as defined by the regulatory statute does not justify an implied antitrust immunity. See, e.g., *United States* v. *RCA*, 358 U.S. 334 (1959) (FCC approval of exchange of broadcast licenses does not confer antitrust immunity); *California* v. *FPC*, 369 U.S. 482 (1962) (FPC approval of acquisition does not confer antitrust immunity).

alleged price squeezes.[18] Application of the antitrust laws to alleged price squeezes would not frustrate FERC's regulation of wholesale rates. On the contrary, the availability of antitrust relief provides a necessary complement to FERC's limited power to remedy a price squeeze. All that FERC can do prospectively is to adjust the wholesale rate within the zone of reasonableness.[19] See *FPC* v. *Conway Corp.*, *supra*, 426 U.S. at 278. If this is inadequate to remedy a price squeeze, FERC cannot compel a utility to file higher retail rates.[20]

3. Petitioner's final argument for antitrust immunity is that the conduct at issue falls within the state action exemption of *Parker* v. *Brown*, 317 U.S. 341 (1943). The conduct alleged to violate the antitrust laws in this case, however, does not constitute "state action" as that doctrine has been articulated by this Court. Rather, what is at issue is an essentially private restraint that is fully subject to the antitrust laws.

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[18] Nor can FERC award damages for the effects of unreasonable or discriminatory rates. *City of Mishawaka* v. *Indiana & Michigan Electric Co.*, 560 F.2d 1314, 1325 (7th Cir. 1977), cert. denied, 436 U.S. 922 (1978); see also *CF Industries, Inc.* v. *Transcontinental Gas Pipe Line Corp.*, 614 F.2d 33, 35-36 (4th Cir. 1980); *State of Louisiana* v. *FPC*, 503 F.2d 844, 867-868 (5th Cir. 1974).

[19] With respect to past harm, FERC can award refunds only in cases where it has suspended the rate; it cannot otherwise provide retroactive relief. *City of Batavia* v. *FERC*, 672 F.2d 64, 89 (D.C. Cir. 1982).

[20] Under the doctrine of primary jurisdiction the antitrust court may refer to FERC any issues calling for the agency's expertise. *Far East Conference* v. *United States*, 342 U.S. 570, 574-575 (1952); *City of Mishawaka* v. *Indiana & Michigan Electric Co.*, *supra*, 560 F.2d at 1322.

This Court held in *Goldfarb* v. *Virginia State Bar*, 421 U.S. 773 (1975), that "anticompetitive activities must be *compelled* by direction of the State acting as a sovereign" in order for private defendants to claim state action immunity for their conduct. 421 U.S. at 791 (emphasis added). This holding was reaffirmed in *Cantor* v. *Detroit Edison Co.*, *supra*, 428 U.S. at 592-598.[21] Nothing in the Court's subsequent state action decisions involving state agencies and instrumentalities[22] has altered this compulsion standard for assessing private conduct. Neither the price squeeze at issue in this case nor UE's retail rates themselves are compelled by the state of Missouri. Therefore, under this Court's prior holdings, the state action defense is not available to UE.

In addition, even if the state action criteria applicable to governmentally imposed restraints (rather than the compulsion test) were applied to UE's alleged price squeeze, it still would be subject to the antitrust laws under the standard of *California Retail Liquor Dealers Association* v. *Midcal Aluminum, Inc.*, *supra*, 445 U.S. at 105. As the court of appeals correctly found (Pet. App. A-13), there is no clearly articulated state policy in favor of the alleged price squeeze, and the relationship between UE's wholesale and retail rates cannot be "actively supervised" by the state of Missouri since it has no authority over UE's wholesale rates.

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[21] See also 428 U.S. at 600 (plurality opinion); 428 U.S. at 604 (Burger, C.J., concurring); 428 U.S. at 609 (Blackmun, J., concurring); 428 U.S. at 623-626 (Stewart, J., dissenting) (all indicating approval of *Goldfarb* compulsion test).

[22] *City of Lafayette* v. *Louisiana Power & Light Co.*, *supra*; *California Retail Liquor Dealers Association* v. *Midcal Aluminum, Inc.*, *supra*; *Community Communications Co.* v. *City of Boulder*, 455 U.S. 40 (1982).

CONCLUSION

The petition for a writ of certiorari should be denied.[23]

Respectfully submitted.

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DECEMBER 1982

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[23] The other issue presented in the petition—whether electricity is a "commodity" within the meaning of the Robinson-Patman Act—does not warrant review by this Court at this stage of the litigation. Petitioner has failed to show that the Eighth Circuit's holding on this issue is in conflict with that of any other court of appeals. At most, it has shown a conflict with two district court decisions (Pet. 16-17). Nor is the issue of sufficiently great importance to require decision by this Court in the absence of conflict; it has arisen only rarely in reported decisions of the lower courts. See Pet. 16-17; Br. in Opp. 17-19.

Moreover, the question whether electricity is a "commodity" may not dispose of petitioner's Robinson-Patman Act claim. The district court also held that claim defective for failure to allege that the challenged sales took place in interstate commerce. As the court of appeals noted (Pet. App. A-15): "Kirkwood asked for leave to amend its complaint to correct the supposed deficiency, but the District Court never ruled on the request." Thus, any review of this issue should await final determination of the Robinson-Patman Act claim by the lower courts.

APPENDIX B

Questions to be Answered by the Jury and its Answers (Pet. App. 156a-160a)

Questions To Be Answered By The Jury

Claim 1—Monopolization

1. Did defendants possess monopoly power in a relevant market? Yes (Yes or No)

2. If so, did defendants wilfully maintain such monopoly power by predatory or anti-competitive conduct? Yes (Yes or No)

3. If so, was such wilful maintenance of monopoly power a proximate cause of injury to plaintiffs? Yes (Yes or No)

Claim 2—Attempted monopolization

4. Did defendants have a specific intent to obtain monopoly power in a relevant market? Yes (Yes or No)

5. If so, did defendants attempt to obtain such monopoly power by anti-competitive or predatory conduct? Yes (Yes or No)

6. If so, was there a dangerous probability that defendants would succeed in obtaining such monopoly power? Yes (Yes or No)

7. If so, was such attempt a proximate cause of injury to plaintiffs? Yes (Yes or No)

Claim 3—Conspiracy to monopolize

8. Did AT&T and one or more of the Bell companies, acting as separate entities, conspire or agree to monopolize a relevant market? No (Yes or No)

9. If so, did these companies have the specific intent to maintain monopoly power in the relevant market? No (Yes or No)

10. If so, did any of the conspirators commit any overt acts in furtherance of the conspiracy? No (Yes or No)

11. If so, was the conspiracy a proximate cause of injury to plaintiffs? — No (Yes or No)

Claim 4—Conspiracy in restraint of trade

12. Did AT&T and one or more of the Bell companies, acting as separate entities, conspire or agree to engage in conduct which unreasonably restrained trade? — No (Yes or No)

13. If so, was any such conduct a proximate cause of injury to plaintiffs? — No (Yes or No)

14. What amount of money will fairly and reasonably compensate plaintiffs for the injuries they sustained to their telephone terminal equipment business as a proximate result of the violation or violations which you have found? — $91,900,000

15. If you have found under any one or more of the four claims that the interface device requirement was a violation of the antitrust laws, what amount of money will fairly and reasonably compensate plaintiffs for the injuries they sustained by having to pay for the installation and monthly rentals of defendants' interface devices, as a proximate result of such violation? — $ 268,243

Explanation of Answers to Questions 2 and/or 5
(Not required if you answered "No" to *both* questions)

16. If your answer to either Question 2 or Question 5 is "Yes," on which of the following alleged practices of defendants have you based your finding of predatory or anticompetitive conduct:

    a. Filing of the interface device tariff in bad faith? — Yes (Yes or No)

b. Intentional delay in providing and installing interface devices?	Yes (Yes or No)
c. Opposing certification in bad faith?	Yes (Yes or No)
d. Intentionally providing unduly expensive, inefficient or unreliable interface devices?	No (Yes or No)
e. Intentional pricing of PBX and key telephone services below incremental costs?	No (Yes or No)
f. Discriminating against purchasers of competitive terminal equipment in the price of network service?	No (Yes or No)
g. Misuse of information obtained through supplying of the interface devices to attempt to cause customers who have indicated their intention to purchase competitive equipment to lease Bell equipment instead?	No (Yes or No)
h. Bad faith refusal to sell inside wiring at all or on a reasonable basis?	Yes (Yes or No)
i. Bad faith delay in making cutovers?	Yes (Yes or No)

APPENDIX C

Hush-A-Phone Corp. v. *AT&T*, 22 F.C.C. 112 (1957)

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON 25, D. C.

In the Matter of

HUSH-A-PHONE CORP. and HARRY C. TUTTLE, COMPLAINANTS *v.* AMERICAN TELEPHONE & TELEGRAPH CO., ET AL., DEFENDANTS	Docket No. 9189

APPEARANCES

Louis G. Caldwell, *Kelley E. Griffith*, *Max E. Wildman*, and *William H. Symmes, Jr.*, on behalf of the complainants; *Frank A. Fritz*, *T. Brook Price*, and *Edmund S. Hawley*, on behalf of the defendants; *Walter R. McDonald*, and *Austin L. Roberts, Jr.*, on behalf of the National Association of Railroad and Utilities Commissioners; *Norman S. Case*, on behalf of the United States Independent Telephone Association; and *Bernard Strassburg*, *William G. Butts*, and *Willis S. Ryza*, on behalf of the Federal Communications Commission.

DECISION AND ORDER ON REMAND

(Adopted: February 6, 1957)

BY THE COMMISSION: COMMISSIONER DOERFER abstaining from voting.

1. On November 8, 1956, the United States Court of Appeals for the District of Columbia Circuit issued its decision in *Hush-A-Phone Corp.* v. *U. S.*, 238 F. 2d 266, in which it set aside the Commission's decision and order of December 21, 1955, herein, dismissing the complaint of Hush-A-Phone Corp. against defendants American Telephone & Telegraph Co. and the associated Bell System companies. The court remanded the case to the Commission for further proceedings not inconsistent with its decision.

2. The complaint of the Hush-A-Phone Corp., among other things, attacked the justness and reasonableness and, therefore, the lawfulness, under section 201 (b) of the Communications Act of 1934, as amended, of defendants' so-called "foreign attachment" tariff regulations[1] insofar as they barred the use by defendants' subscribers of

[1] One form of such tariff regulation, filed by two of the defendants, the Bell Telephone Company of Pennsylvania and the Diamond State Telephone Co., reads as follows:
"Equipment, apparatus and lines furnished by the Telephone Company shall be carefully used and no equipment, apparatus or lines not furnished by the Telephone Company shall be attached to, or used in connection therewith, unless specifically authorized in this tariff. When equipment, apparatus or lines furnished by the customer or subscriber are used in connection with equipment, apparatus or lines furnished by the Telephone Company,

the Hush-A-Phone device in connection with interstate and foreign telephone service. In dismissing the complaint, the Commission found, among other things, that the use of the Hush-A-Phone device affords some measure of privacy as well as a more quiet telephone wire by reason of exclusion of surrounding noise; that no physical damage of any consequence results to defendants' facilities when the Hush-A-Phone is used; but that the use of the Hush-A-Phone for the primary purpose for which it was designed, to wit, privacy, is accompanied by an impairment in the quality of telephone transmission; and that the unrestricted use of the Hush-A-Phone could result in a general deterioration of the quality of interstate and foreign service. Accordingly, the Commission concluded that it was not an unjust and unreasonable practice upon the part of the defendants to prohibit the use of the Hush-A-Phone device in connection with their telephone service.

3. In setting aside the Commission's order dismissing the complaint of Hush-A-Phone and remanding the case to the Commission, the Court of Appeals held that defendants' tariffs, under the Commission's decision are in unwarranted interference with the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental. The court points out that the Commission's conclusions of systemic or public injury resulting from the use of a Hush-A-Phone are not warranted where the only effect of such use is a diminution of volume and clarity of the Hush-A-Phone user's voice as heard by the party to whom he is speaking. It further points out that the user may obtain privacy of conversation by cupping his hand around the transmitter with similar diminution of volume and clarity.

4. In addition to invalidating the defendants' foreign attachment tariff regulations insofar as they bar the use of the Hush-A-Phone device, an inescapable consequence of the Court's opinion is to render such tariff regulations unjust and unreasonable insofar as they may be construed or applied to bar a customer from using other devices which serve the customer's convenience in his use of the facilities furnished by the defendants and which do not injure the telephone companies' employees or facilities, or the public in the use of defendants' services, or impair the operation of the telephone system. As we construe the Court's opinion, a tariff regulation which amounts to a blanket prohibition upon the customer's use of any and all devices without discriminating between the harmful and harmless encroaches upon the right of the user to make reasonable use of the facilities furnished by the defendants. Such a regulation goes beyond what is reasonably

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the equipment, apparatus and lines furnished by the customer or subscriber must be connected solely with the Telephone Company's system. Any equipment furnished by the Telephone Company shall remain the property of the Telephone Company and upon termination of service for any cause whatsoever be returned to it, in good condition, reasonable wear and tear thereof excepted."

Another form of tariff regulation, filed by the remaining defendants (other than the American Telephone & Telegraph Co.), provides:

"No equipment, apparatus, circuit or device not furnished by the Telephone Company shall be attached to or connected with the facilities furnished by the Telephone Company, whether physically, by induction or otherwise, except as provided in this tariff. In case any such unauthorized attachment or connection is made, the Telephone Company shall have the right to remove or disconnect the same; or to suspend the service during the continuance of said attachment or connection; or to terminate the service."

required in the interest of protecting the defendants' employees, facilities, the telephone system and the public from adverse effects. Accordingly, we conclude that the tariff regulation is unjust and unreasonable and, therefore, unlawful to the extent we have indicated.

5. *It is ordered*, That defendants herein shall file tariff schedules, effective no later than April 1, 1957, on not less than 30 days notice to the Commission and the public, rescinding and canceling any tariff regulations to the extent that they prohibit a customer from using, in connection with interstate or foreign telephone service, the Hush-A-Phone device or any other device which does not injure defendants' employees, facilities, the public in its use of defendants' services, or impair the operation of the telephone system.

APPENDIX D

***In re Carterfone Device*, 13 F.C.C. 2d 420 (1968) (Appendix A and Appendix B, 13 F.C.C. 2d 427-29, omitted)**

FCC 68-661

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of USE OF THE CARTERFONE DEVICE IN MESSAGE TOLL TELEPHONE SERVICE	Docket No. 16942
In the Matter of THOMAS F. CARTER AND CARTER ELECTRONICS CORP., DALLAS, TEX. (COMPLAINANTS), *v.* AMERICAN TELEPHONE AND TELEGRAPH CO., ASSOCIATED BELL SYSTEM COMPANIES, SOUTHWESTERN BELL TELEPHONE CO., AND GENERAL TELEPHONE CO. OF THE SOUTHWEST (DEFENDANTS)	Docket No. 17073

APPEARANCES

Messrs. *Bill Brice* and *Ray G. Besing* (Geary, Brice & Lewis) on behalf of Thomas F. Carter and Carter Electronics Corp.; Messrs. *Reed Miller* and *David H. Lloyd* (Arnold & Porter), and Mr. *Hubert M. Preston* on behalf of General Telephone Co. of the Southwest: Messrs. *Theodore F. Brophy, Donal F. McCarthy, Reed Miller* and *David H. Lloyd* on behalf of G.T. & E. Service Corp.: Mr. *W. H. Borghesani, Jr.* (Keller and Heckman) on behalf of National Retail Merchants Association: Messrs. *Joseph E. Keller* and *W. H. Borghesani, Jr.* (Keller and Heckman) on behalf of Central Committee on Communication Facilities of the American Petroleum Institute; Messrs. *Wayne E. Babler, Melvin R. Quinlan, Harold J. Cohen* and *Raymond F. Scully* on behalf of Bell System Respondents; Mr. *Warren E. Baker* (Chadbourne, Parke, Whiteside & Wolff) on behalf of United States Independent Telephone Association: and Messrs. *John M. Lothschutz* and *Paul W. Hammack* on behalf of Chief, Common Carrier Bureau, Federal Communications Commission.

DECISION

(Adopted June 26, 1968)

BY COMMISSIONER JOHNSON FOR THE COMMISSION: COMMISSIONER LOEVINGER DID NOT PARTICIPATE IN THE DECISION IN THIS CASE.

This proceeding involves the application of American Telephone and Telegraph Co. tariffs to the use by telephone subscribers of the Carterfone.

The Carterfone is designed to be connected to a two-way radio at the base station serving a mobile radio system. When callers on the radio and on the telephone are both in contact with the base station

operator, the handset of the operator's telephone is placed on a cradle in the Carterfone device. A voice control circuit in the Carterfone automatically switches on the radio transmitter when the telephone caller is speaking; when he stops speaking, the radio returns to a receiving condition. A separate speaker is attached to the Carterfone to allow the base station operator to monitor the conversation, adjust the voice volume, and hang up his telephone when the conversation has ended.

The Carterfone device, invented by Thomas F. Carter, has been produced and marketed by the Carter Electronics Corp., of which Mr. Carter is president, since 1959. From 1959 through 1966 approximately 4,500 Carterfones were produced and 3,500 sold to dealers and distributors throughout the United States and in foreign countries.

The defendant telephone companies, acting in accordance with their interpretation of tariff FCC No. 132, filed April 16, 1957,* by American Telephone and Telegraph Co., advised their subscribers that the Carterfone, when used in conjunction with the subscriber's telephone, is a prohibited interconnecting device, the use of which would subject the user to the penalties provided in the tariff. The tariff provides that:

> No equipment, apparatus, circuit or device not furnished by the telephone company shall be attached to or connected with the facilities furnished by the telephone company, whether physically, by induction or otherwise. * * * (A fuller text is provided in appendix A.)

A private antitrust action was brought by Carter against American Telephone and Telegraph Co. and General Telephone Co. of the Southwest. The District court held that because of its "special competence and 'expertise'" in the technical and complex matter of telephone communication, the Federal Communications Commission, under the doctrine of primary jurisdiction, is vested with the right to determine the "justness, reasonableness, validity, application, and effect of the tariff and practices here involved." *Carter* v. *AT&T*, 250 F. Supp. 188, 192 (N.D. Texas, 1966). The court reserved jurisdiction to pass ultimately upon the antitrust issues after proceedings before the Commission should be concluded. The United States Court of Appeals for the Fifth Circuit affirmed the District court's decision on August 17, 1966. *Carter* v. *American Telephone and Telegraph Co.* 365 F. 2d 486 (5th Cir., 1966). On October 20, 1966, the Commission on its own motion ordered that a public hearing be held to resolve "the question of the justness, reasonableness, validity, and effect of the tariff regulations and practices complained of," assigning docket No. 16942. The following five specific issues were designated for hearing:

> 1. The nature and extent of the public need and demand for the use of the Carterfone device in connection with interstate or foreign message toll telephone service;
>
> 2. The effect of the use of the Carterfone device upon the operation of the telephone system used to provide interstate and foreign telephone message toll telephone services to the public or upon the employees and facilities

*This tariff is now superseded by tariff FCC No. 263.

of the telephone companies providing such services or upon the public in its use of such telephone system;

3. Whether the provisions of tariff FCC No. 132 filed by American Telephone and Telegraph Co. may properly be construed to prohibit any telephone user from attaching the Carterfone device to the facilities of the telephone companies for use in connection with interstate and foreign message toll telephone services;

4. If the aforesaid tariff provisions may properly be construed to prohibit telephone users from attaching the Carterfone device to the facilities of the telephone companies for use in connection with interstate or foreign message toll telephone services;

(*a*) Whether such regulations are, or will be, unjust and unreasonable and, therefore, unlawful within the meaning of section 201(b) of the Communications Act of 1934, as amended, or are, or will be unduly discriminatory or preferential in violation of section 202(a) of said Act;[1]

(*b*) Whether, in the light of facts developed in connection with the foregoing issues, the Commission, in accordance with the provisions of section 205 of the Act, should prescribe tariff regulations which will permit the use of the Carterfone device in connection with interstate and foreign toll telephone service and, if so, the kind of tariff regulations which should be prescribed;

5. If the aforesaid tariff regulations of the telephone companies may not properly be construed to prohibit telephone users from attaching the Carterfone device to the facilities of the telephone companies for use in connection with interstate or foreign message toll telephone services, what action, if any, should be taken by the Commission with respect thereto.

Thomas F. Carter and Carter Electronics Corporation (hereafter Carter), American Telephone and Telegraph Co. and 22 associated Bell System companies (A.T. & T.), and General Telephone Co. of the Southwest (General) were named parties respondent. Subsequently, several parties were allowed to intervene. The United States Independent Telephone Association and G.T. & E. Service Corp. intervened on the side of A.T. & T. and General, and the Central Committee on Communications Facilities of the American Petroleum Institute, and the Retail Research Institute of the National Retail Merchants Association intervened on the side of Carter.

On December 21, 1966, Carter filed a formal complaint pursuant to section 208 of the Communications Act, 47 U.S.C. § 208, against General and certain of the Bell companies, and further proceedings in docket No. 16942 were held in abeyance pending disposition of the complaint (docket No. 17073). By order released March 8, 1967, the complaint was consolidated for hearing with docket No. 16942, and the following issues were added:

1. Whether, with respect to the period from February 6, 1957, to December 21, 1966, the regulations and practices in tariff FCC No. 132 of the American Telephone and Telegraph Co. were properly construed and applied to prohibit any telephone user from attaching the Carterfone device to the facilities of the telephone companies for use in connection with interstate and foreign message toll telephone service; and if so

[1] Sec. 201(b) provides: "All charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable, and any such charge, practice, classification, or regulation that is unjust or unreasonable is hereby declared to be unlawful: * * *"

Sec. 202(a) provides: "It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class of persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage."

2. Whether, during the aforesaid period, such regulations and practices were unjust and unreasonable, and therefore unlawful within the meaning of section 201(b) of the Communications Act of 1934, as amended, or were unduly discriminatory or preferential in violation of section 202(a) of said Act.

The examiner found that there was a need and demand for a device to connect the telephone landline system with mobile radio systems which could be met in part by the Carterfone. He also found that the Carterfone had no material adverse effect upon use of the telephone system. He construed the tariff to prohibit attachment of the Carterfone whether or not it harmed the telephone system, and determined that future prohibition of its use would be unjust and unreasonable. He also found that it would be unduly discriminatory under section 202(a) of the Act, since the telephone companies permit the use of their own interconnecting devices. However, he did not find the tariff prohibitions to have been unlawful in the past, largely because the harmless nature of the Carterfone was not known to the telephone companies, and he did not find that a general prohibition against non-telephone company supplied interconnecting devices was unjust or unwise, because of the risk he saw of "serious harm to the heart of the nation's communications network."

We agree with and adopt the examiner's findings that the Carterfone fills a needs and that it does not adversely affect the telephone system. They are fully supported by the record. We also agree that the tariff broadly prohibits the use of interconnection devices, including the Carterfone. Its provisions are clear as to this. Finally, in view of the above findings, we hold, as did the examiner, that application of the tariff to bar the Carterfone in the future would be unreasonable and unduly discriminatory. However, for the reasons to be given, we also conclude that the tariff has been unreasonable, discriminatory, and unlawful in the past, and that the provisions prohibiting the use of customer-provided interconnecting devices should accordingly be striken.

We hold that the tariff is unreasonable in that it prohibits the use of interconnecting devices which do not adversely affect the telephone system. See *Hush-A-Phone Corp.* v. *U.S.*, 99 U.S. App. D.C. 190, 193, 238 F. 2d 266, 269 (D.C. Cir., 1956), holding that a tariff prohibition of a customer supplied "foreign attachment" was "in unwarranted interference with the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental."[2] The principle of Hush-A-Phone is directly applicable here, there being no material distinction between a foreign attachment such as the Hush-A-Phone and an interconnection device

[2] After Hush-A-Phone, the Commission directed A.T. & T. to "file tariff schedules * * * rescinding and cancelling any tariff regulations to the extent that they prohibit a customer from using, in connection with interstate or foreign telephone service, the Hush-A-Phone device or any other device which does not injure defendants' employees, facilities, the public in its use of defendants' services or impair the operation of the telephone system." Hush-A-Phone, decision and order on remand, 22 F.C.C. 112 (Feb. 6, 1957). The Commission additionally stated in its decision and order on remand: "As we construe the court's opinion, a tariff regulation which amounts to a blanket prohibition upon the customer's use of any and all devices without discriminating between the harmful and harmless encroaches upon the right of the user to make reasonable use of the facilities furnished by the defendants." The modification of the offending tariff provision filed by A.T. & T., and designated paragraph B24 of tariff FCC No. 132, is at issue here.

such as the Carterfone, so far as the present problem is concerned.[3] Even if not compelled by the Hush-A-Phone decision, our conclusion here is that a customer desiring to use an interconnecting device to improve the utility to him of both the telephone system and a private radio system should be able to do so, so long as the interconnection does not adversely affect the telephone company's operations or the telephone system's utility for others. A tariff which prevents this is unreasonable; it is also unduly discriminatory when, as here, the telephone company's own interconnecting equipment is approved for use. The vice of the present tariff, here as in Hush-A-Phone, is that it prohibits the use of harmless as well as harmful devices.

A.T. & T. has urged that since the telephone companies have the responsibility to establish, operate and improve the telephone system, they must have absolute control over the quality, installation, and maintenance of all parts of the system in order effectively to carry out that responsibility. Installation of unauthorized equipment, according to the telephone companies, would have at least two negative results. First, it would divide the responsibility for assuring that each part of the system is able to function effectively and, second, it would retard development of the system since the independent equipment supplier would tend to resist changes which would render his equipment obsolete.

There has been no adequate showing that nonharmful interconnection must be prohibited in order to permit the telephone company to carry out its system responsibilities. The risk feared by the examiner has not been demonstrated to be substantial, and no reason presents itself why it should be. No one entity need provide all interconnection equipment for our telephone system any more than a single source is needed to supply the parts for a space probe. We are not holding that the telephone companies may not prevent the use of devices which actually cause harm, or that they may not set up reasonable standards to be met by interconnection devices. These remedies are appropriate; we believe they are also adequate to fully protect the system.

Nor can we assume that the telephone companies would be hindered in improving telephone service by any tendency of the manufacturers and users of interconnection devices to resist change. The telephone companies would remain free to make improvements to the telephone system and could reflect any such improvements in reasonable revised standards for nontelephone company provided devices used in connection with the system. Manufacturers and sellers of such devices would then have the responsibility of offering for sale or use only such equipment as would be in compliance with such revised standards. An owner or user of a device which failed to meet reasonable revised standards for such devices, would either have to have the device rebuilt to comply with the revised standards or discontinue its use. Such is the risk inherent in the private ownership of any equipment to be used in connection with the telephone system.

[3] The Hush-A-Phone was a cup-like device mechanically fastened to the mouthpiece of a telephone handset. The Carterfone by means of acoustic and inductive coupling effectively achieves an "interconnection" between the public toll telephone system and private mobile radio systems. These differences are immaterial, however, insofar as the Hush-A-Phone holding is concerned.

The present unlawfulness of the tariff also permeates its past. It has been unreasonable and unreasonably discriminatory since its inception, for the reasons given above. That the telephone companies may not have known prior to the proceedings herein that the Carterfone was in fact harmless is irrelevant, since they barred its use without regard to its effect upon the telephone system. Furthermore, the tariff was the carrier's own. It was not prescribed by the Commission. It has remained subject to complaint and to a finding that it had been unlawful since its inception.

A Commission-prescribed rate or practice must be followed by the carrier. It becomes the lawful rate or practice. But where the carrier itself initiates the rate or practice its lawfulness remains open, not only to a prospective finding but also to a retroactive one. *Arizona Grocery Co.* v. *Atchison, T. & S.F. Ry. Co.*, 284 U.S. 370 (1932). And it is not a bar to such a finding of past unlawfulness that the tariff has been permitted to remain in effect and has not, until now been the subject of a determination as to its lawfulness.[4] See *Interstate Commerce Commission* v. *Inland Waterways Corp.*, 319 U.S. 671 (1943), finding no agency prescription even where the agency had stated that a rate was "shown to be just and reasonable"; *Interstate Commerce Commission* v. *Mechling*, 330 U.S. 567, 571–572 (1947); *Public Utilities Commission of California* v. *United States*, 356 F. 2d 236 (9th Cir., 1966). As was said in *Birmingham Slag Co.* v. *United States*, 11 F. Supp. 486, 487 (N.D. Ala., 1935):

> Our conclusion is that [the Commission] • • • without adjudging their individual reasonableness, merely authorized the carriers to put in the general level of rates, at their risk, if they were so advised, and remove certain incidental obstructions to the carriers doing so, which were presented by section 13(4) of the act (49 USCA § 13(4)), and agreed not to make a suspensory order, in advance of hearing, under complaints filed under section 13. • • • We think the rates in controversy were carrier, and not Commission-made rates. Their validity has not been declared, nor has the Commission ordered them put in effect. They stand just as if filed by the carrier with the Commission, with no action on the part of the Commission making their validity a matter of adjudication against the shippers, and the shippers' right to a day in court is not impaired, either as to the invalidity of the rate, or the right to reparations.

See also *Algoma Coal & Coke Co.* v. *United States*, 11 F. Supp. 487 (E.D. Va., 1935).

In view of the unlawfulness of the tariff there would be no point in merely declaring it invalid as applied to the Carterfone and permitting it to continue in operation as to other interconnection devices. This would also put a clearly improper burden upon the manufacturers and users of other devices. The appropriate remedy is to strike the tariff and permit the carriers, if they so desire, to propose new tariff provisions in accordance with this opinion. We make no rulings as to

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[4] On May 16, 1957, the Commission issued a public notice stating that the Commission had "elected to permit" the revised tariff submitted by the telephone companies to go into effect. The prohibitions as to interconnection devices were mentioned in the public notice. Thereafter, the Commission on various occasions cited the prohibitions in response to inquiries about attachments or interconnecting devices, without questioning the validity of the prohibitions. The Examiner's finding that the tariff provisions in question were valid prior to the instant hearing appears to have been based in part on this history. However, none of this made the tariff one prescribed by the Commission.

damages since that relief has not been requested.[5] As noted above, the carriers may submit new tariffs which will protect the telephone system against harmful devices, and may specify technical standards if they wish.

Accordingly, we find that tariff FCC No. 263, paragraphs 2.6.1 and 2.6.9 are, and have since their inception been, unreasonable, unlawful and unreasonably discriminatory under sections 201(b) and 202(a) of the Communications Act of 1934, as amended.

Other ancillary matters require our attention and disposition. On March 27, 1968, the Chief, Common Carrier Bureau, requested that the Commission take official notice of a new Canadian statute, entitled "An Act Respecting the Bell Telephone Company of Canada," which became effective on March 7, 1968. The statute has some relevance to this proceeding because it states the national policy with respect to foreign attachments of a neighboring country whose telephone system is completely interconnected with the telephone system of the United States. Accordingly, the Common Carrier Bureau's request for official notice will be granted.

On March 18, 1968, the Commission received a petition to accept an amicus curiae brief, together with the brief, from Prof. Willis Rokes of the Municipal University of Omaha, Omaha, Nebr. In general, Professor Rokes supports the position advanced by Carter and the Common Carrier Bureau. The Commission appreciates obtaining the carefully considered views of interested members of the public in matters of great public concern such as we have here. Accordingly, the petition will be granted and the brief amicus curiae accepted.

On May 3, 1968, motions to correct the transcript of oral argument were filed by the Bell System Parties, the United States Independent Telephone Association, the General Telephone Co. of the Southwest, G. T. & E. Service Corporation, the Chief, Common Carrier Bureau, and the United States Department of Justice. No oppositions were filed to any of these requests, and they will be granted.

It is ordered, that the "Request for Official Notice," filed March 27, 1968, by Chief, Common Carrier Bureau, *Is granted;*

It is further ordered, that the petition to accept an amicus curiae brief filed on March 18, 1968, by Prof. Willis Rokes *Is granted*, and that the said brief *Is accepted;*

It is further ordered, that the motions to correct transcript of oral argument filed on May 3, 1968, by the Bell System Parties, the United States Independent Telephone Association, the General Telephone Co. of the Southwest, G. T. & E. Service Corp., the Chief, Common Carrier Bureau, and the United States Department of Justice, *Are granted;*

It is further ordered, that paragraphs 2.6.1 and 2.69 of tariff F.C.C. No. 263 be stricken and not thereafter be published or given any effect;

[5] We do not intend to determine any issues which may arise in the pending litigation, *e.g.*, a claim that the Carterfone may have been harmful as manufactured at some time in the past.

It is further ordered, that this proceeding *Is terminated;* and
It is further ordered, that this Order shall be effective July 29, 1968.

FEDERAL COMMUNICATIONS COMMISSION,
BEN F. WAPLE, *Secretary.*

APPENDIX E

In re Carterfone Device, 14 F.C.C. 2d 571 (1968)
(on reconsideration)

FCC 68-922

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of USE OF THE CARTERFONE DEVICE IN MESSAGE TOLL TELEPHONE SERVICE	Docket No. 16942
In the matter of THOMAS F. CARTER AND CARTER ELECTRONICS CORP., DALLAS, TEX., COMPLAINANTS v. AMERICAN TELEPHONE & TELEGRAPH CO., ASSOCIATED BELL SYSTEM CO., SOUTHWESTERN BELL TELEPHONE CO., AND GENERAL TELEPHONE CO. OF THE SOUTHWEST, DEFENDANTS	Docket No. 17073

MEMORANDUM OPINION AND ORDER

(Adopted September 11, 1968)

BY THE COMMISSION:

1. The Commission has before it petitions for reconsideration of our *Decision* herein released June 27, 1968 (13 FCC 2d 420), filed by American Telephone & Telegraph Co. and Bell Telephone System Associated Cos. (hereafter A.T. & T.); General Telephone Co. of the Southwest and G.T. & E. Service Corp. (General); U.S. Independent Telephone Association; National Association of Regulatory Utility Commissioners (NARUC); Tennessee Public Service Commission; South Carolina Public Service Commission; Mississippi Public Service Commission; Georgia Public Service Commission and Arizona Corporation Commission.[1] Oppositions to reconsideration have been filed by the Chief, Common Carrier Bureau; Thomas F. Carter and Carter Electronics Corp. (Carter); the United States of America; the National Retail Merchants Association (NRMA) (in docket No. 16942); and the Central Committee on Communication Facilities of the American Petroleum Institute (API). Several replies to the oppositions have also been filed.

2. It may be helpful to recapitulate briefly our decision of June 27, 1968 before taking up the arguments made upon reconsideration. This

[1] These State regulatory bodies have not been parties to this proceeding, and the National Retail Merchants Association has moved to strike their petitions for failure to show good cause for late participation. Petitions for reconsideration were also submitted by the following nonparty commissions: Colorado Public Utilities Commission, July 31, 1968; Idaho Public Utilities Commission, Aug. 1, 1968; Public Service Commission of Kentucky, July 31, 1968; Montana Public Service Commission, Aug. 5, 1968; Public Service Commission of Wyoming, Aug. 19, 1968. The Western Union Telegraph Co. has also filed, on Sept. 3, 1968, a petition for limited intervention to comment in support of the telephone companies' position.

is a consolidated proceeding. Docket No. 16942 was instituted upon our own motion to determine the need for the Carterfone, a device used to interconnect mobile radio systems to the interstate and foreign message toll telephone system; the effect of use of the Carterfone upon telephone service; whether A.T. & T. Tariff FCC No. 132 (now No. 263) prohibited use of the Carterfone as an interconnection device and, if so, whether the tariff regulations are lawful. A further issue was to determine whether the Commission should itself prescribe tariff regulations which would permit the use of the Carterfone. Issues on the past effect and lawfulness of the tariff were added in docket No. 17073 upon the filing of a complaint by Carter.

3. We held that the Carterfone filled a need, that its use did not adversely affect the telephone system, that its use was nevertheless precluded by the tariff, and that the tariff was unlawful, and had been in the past, because it prohibited the use of the Carterfone and other interconnecting devices without regard to actual harm caused to the telephone system. We did not prescribe the terms of a new tariff, but left that to the initiative of the telephone companies, pointing out that they were in no wise precluded from adopting reasonable standards to prevent harmful interconnection. Basic to our holding was a rejection of A.T. & T.'s position that because A.T. & T. cannot control the interconnected private system, interconnection is by definition a degradation of the message toll telephone system without regard to the quality of the interconnecting device or of the interconnected mobile radio system, i.e., without regard to actual harmful effects. We viewed this position [2] and the rule embodying it as unreasonable. General has contended that the Commission has "opened the door to customer ownership of telephone handsets." The facts of this case did not involve the furnishing of purely telephone system equipment telephone-to-telephone on the message toll telephone system. Nor, of course, were we concerned with the interconnection of telephone companies. With this recapitulation, we can turn to the contentions presented for reconsideration.

4. The primary contention upon reconsideration is that our decision permits the use of a myriad of customer-provided devices for interconnection without adequate exploration of the technical and economic problems. This record convinces us that there can be interconnection without harmful technical effects. With respect to possible economic effects from the interconnection of private systems—"the piecing out of common carrier services with unregulated systems"—no substantial effort was made on this record to demonstrate any harm from the

[2] That this was A.T. & T.'s position is clear, *see*, e.g., Tr. 565–567, 570–571, 577–578, 607–621. We found no substantial factors outweighing the necessity of eliminating the arbitrary tariff. Standards to prevent the introduction of harmful inputs can be devised (Tr. 626–627; see also par. 2.6.9 of tariff No. 263 containing a general prohibition against harmful attachments, and tariff No. 260, par. 2.1.4(D)), and enforcing them would be no more difficult than enforcing the present absolute prohibition. Furthermore, notification to the carrier of the installation of a connecting device, which would be a reasonable requirement, would greatly relieve any problems of discovering the source of any harmful interconnection (Tr. 912). The record also showed that terminal devices may be used under a standard making actual harm a factor, and the distinction between terminal devices and interconnection appears to be solely one of function unrelated to inherent propensity for injurious effects (Tr. 606–696, 1033–1036).

interconnection of private mobile radio systems,[3] and we therefore had no occasion to address ourselves to that question. We agree that economic effects upon the carriers' rate structure might well be a public interest question. But it is an issue, if a carrier seeks to raise it, to be decided upon the facts, i.e., will there be a "cream skimming" effect, what will be the extent of it, and how does it weigh against the benefits of interconnection. As is the case with the question of technical harm, a tariff is unreasonable if it assumes *a priori* a conclusion as to such an issue. Thus, aside from the use of the Carterfone to interconnect private mobile systems—as to which we found no technical harm and any cream skimming (for existing systems certainly) had already taken place when such systems were authorized—our decision does not have the asserted effect of delineating any particular interconnections as permissible. What it does is to require tariffs reasonably addressed to the asserted problems.[4] Nothing else new of substance is presented on this question.

5. We also reject the related claim that the decision goes beyond the issues. To say, as some of the parties do, that the hearing related solely to the Carterfone [5] and not to the validity of the tariff's broad prohibition would make the hearing essentially meaningless. The issues plainly included consideration of the basic validity of the tariff if it was the total prohibitory effect of the tariff which rendered its application to the Carterfone unreasonable. As we pointed out in our June decision, such a fault in a tariff can only be remedied by its revision. It should be noted in this connection that it was well understood that this was an "interconnection" case, and A.T. & T. and General both argued on a broad base (e.g., A.T. & T. exhibit 1; Tr. 81–85; Brief to Examiner, pp. 36–37; General's Proposed Findings, p. 86) the need for a general prohibition against all interconnection not arranged by them.[6]

6. It is also urged that present unlawfulness of the tariff, assuming such unlawfulness to have been properly determined, does not justify a finding of past unlawfulness. But in this case the basis upon which the tariff was found to be presently unlawful is fully applicable to the past as well as the present. We recognize that an order for reparations and an order setting future rates are separate matters, and that a new prescription may be made without finding a past rate to have been unlawful, if there is a reason, as where an initially lawful rate has gradually become unreasonable with the passage of time. See *Baer Brothers* v. *Denver & R.G.R.R.*, 233 U.S. 479; *Ashland Coal & Ice Co.* v. *United*

[3] While A.T. & T. adverted to this problem (A.T. & T. exhibit 1, pp. 15–16), it made no effort to demonstrate adverse economic effects, and we cannot go on speculation. *Allocation of Microwave Frequencies Above 890 Mc.*, 27 FCC 359, 411–413 (1959). The issues included substantiation of any such claimed economic injury. The further contention that the carriers and the public will be adversely affected by a loss of revenue from existing interconnection equipment is unsubstantiated and insubstantial.

[4] We also struck down the prohibition against direct electrical connection. A.T. & T. seems to regard this as a special category but is unable to define it consistently as including or excluding inductive couplings, compare Tr. 972–974 with petition for reconsideration, p. 5. If wire-to-wire connections present a special problem, the nature of that problem should be made clear in an explanation accompanying any new tariff. The term should also be precisely defined.

[5] The exclusion of evidence going beyond the Carterfone concerned the effect of a modification of the Carterfone, and the examiner properly ruled that other devices were not in issue. (Tr. 518–529.) This did not mean the tariff was not in issue.

[6] The clear issues and understanding of the parties cannot be changed by a statement in oral argument to the Commission (Tr. 1217) that general interconnection was not at issue.

States, 61 F. Supp. 708 (E. D. Va., 1945). But such cases have no application here where the invalidity obtained throughout the period in issue.[7] The decisive element, of course, is the reason why a tariff is found to be unlawful. If, as here, the reason applies as well to the past as to the present and future, there is no ground for disparate findings. We similarly adhere to our ruling that the tariff was carrier-initiated, and so remained open to a finding of past unlawfulness.[8] The Commission's decision on remand in *Hush-A-Phone*, 22 FCC 112 (1957) did not prescribe the terms of tariff revision, but left it to the carrier to formulate new provisions consonant with the Court's decision. It cannot now be contended by A.T. & T. that it construed the remand decision as a prescription by the Commission of a tariff prohibiting interconnection in view of A.T. & T.'s own statement in submitting a revised tariff that in their decisions "neither the Commission nor the Court dealt with the interconnection problem, which involves considerations different from those involved in the use of attachments." (A.T. & T. exhibit 3, attachment C, page 9.) Therefore, there was no Commission prescription of the interconnection prohibitions at that time, either in fact or as understood by A.T. & T. Furthermore, the decision to permit the filing of the revised tariff, and subsequent Commission references to it,[9] cannot be deemed prescription. The Commission's acceptance of the tariff for filing was not an adjudication of the tariff's validity and did not make it a Commission-prescribed tariff, and the tariff of course had to be complied with by telephone customers so long as it was on file, *Chicago, M., St. P. & P.R. Co.* v. *Alouette Peat Products*, 253 F. 2d 449 (C.A. 9, 1957). In sum, the Commission did not prescribe the tariff, and until now had made no ruling on its lawfulness.[10] The cases cited in our June decision are conclusive on this point.

7. A.T. & T. further contends that the tariff cannot be found to be in violation of section 202(a) of the act because that section prohibits discrimination among customers only. General agrees, but the Common Carrier Bureau does not. We find it unnecessary to resolve this question [11] and will not rely upon section 202(a).

8. Other arguments made in the various petitions have been considered but do not warrant further discussion. Finally, we must dismiss the State commission petitions for reconsideration. The NARUC was permitted an *amicus* participation upon a late intervention, and has presented the views of the State bodies. While some of the parties

[7] Nor is *William N. Feinstein & Co.* v. *United States*, 209 F. Supp. 613 (S.D.N.Y., 1962), affirmed 317 F. 2d 509 (C.A. 2, 1963), relevant. There, a later decision finding no past unlawfulness was held to be valid even if apparently inconsistent with an earlier decision of the agency. It was pointed out, in addition, that there had been a shift in the burden of proof in the two proceedings (in the first case, the burden was on the proponent of certain charges to show their present lawfulness, while in the later case the burden was on the complainant to show past unlawfulness), as well as different evidence, which might have accounted for the apparently inconsistent results.

[8] We do not mean to suggest that if a question of damages were before us, we would award damages where a device was in fact harmful. See footnote 5 of our June *Decision*.

[9] We note in this connection that Chairman Henry's letter to Mr. Carter, relied upon because of its statement that the Commission was of the opinion that the tariff conformed to its *Order* (A.T. & T. exhibit 3, attachment L), was not a Commission action and, moreover, invited the filing of a complaint.

[10] As the Common Carrier Bureau points out, the Commission in 1962 refused to find the interconnection prohibitions to be lawful. *A.T. & T.* (*Railroad Interconnection*), 32 FCC 337, 340.

[11] This is so although the record contained evidence that the carrier in fact discriminated among customers in the application of the tariff.

now seeking intervention have filed within 30 days of the release of our decision, we cannot find good cause for such late participation in the contention that it was not known that the issues would "include consideration of the validity of tariffs restricting interconnection of customer-owned devices" (Georgia petition). (See sec. 1.106(b) of our rules, 47 CFR 1.106(b).) In light of what has been said above, this is an inadequate statement. The other State petitions are additionally untimely under section 405 of the Communications Act, 47 U.S.C. 405, not having been filed within 30 days of the release of our decision. The petition of the Western Union Telegraph Co. for leave to intervene on a limited basis to support A.T. & T.'s position will also be denied for failure to show good cause or need for such late participation.

9. *It is ordered*, That, except as specified above, the petitions for reconsideration filed by the parties hereto and by NARUC *Are denied;* and

10. *It is further ordered*, That the stay of our June 27, 1968 decision which was ordered on July 26, 1968 (FCC 68-774) *Is dissolved* effective November 1, 1968; and

11. *It is further ordered*, That the petitions for reconsideration or intervention filed by the State regulatory bodies referred to in paragraph 1 and footnote 1 above *Are dismissed;* and

12. *It is further ordered*, That the petition for limited intervention filed by the Western Union Telegraph Co. on September 3, 1968 *Is denied*.

FEDERAL COMMUNICATIONS COMMISSION,
BEN F. WAPLE, *Secretary*.

APPENDIX F

***First Report and Order in Docket 19528*, 56 F.C.C. 2d 593 (1975) (New Part 68 of the Commission's Rules and Regulations, 56 F.C.C. 2d 614-22, omitted)**

FCC 75-1248

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of PROPOSALS FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)	Docket No. 19528

FIRST REPORT AND ORDER

(Adopted October 31, 1975; Released November 7, 1975)

BY THE COMMISSION: COMMISSIONER REID ABSENT; COMMISSIONERS HOOKS AND ROBINSON CONCURRING AND ISSUING STATEMENTS.

PRELIMINARY STATEMENT

1. The Commission has under consideration the Recommended First Report and Order of the Federal-State Joint Board (Joint Board) in this matter, together with its recommendation that we also consider the General Order establishing the California registration program. We also have before us the comments concerning these proposals which we requested interested persons to file in our Memorandum Opinion and Order released May 27, 1975 (53 FCC 2d 219).

2. Timely comments were filed by Ad Hoc Telecommunications Committee, Adcor Electronics, Inc., American Petroleum Institute, American Telephone and Telegraph Company (AT&T), Association of American Railroads, Association of Data Processing Service Organizations, California Public Utilities Commission, Communication Certification Laboratory, Computer and Business Equipment Manufacturer's Association, Continental Telephone Corporation, DASA Corporation, Dictaphone Corporation, Electronic Industries Association. Executone Communication Systems, The GTE Companies, Independent Data Communications Manufacturers Association, International Business Machines, National Telephone Cooperative Association, National Retail Merchant's Association, North American Telephone Association, North Carolina Utilities Commission, Office of Consumer Affairs by Virginia H. Knauer, Phonetele, Inc., Public Utilities Commission of Ohio, Rochester Telephone Company, Rollings Protective Service Company, Scott-Buttner Communications, Sentry Technology, Inc., T.A.D. Avanti, Inc., United States Department of Justice, United States Independent Telephone Association, and Utilities Telecommunications Council. In addition we have received approximately two hundred letters addressing this subject.

3. We also received Reply Comments filed by Phone Mate, Inc., an Opposition to the Reply Comments of Phone Mate, Inc. filed by

AT&T, a Petition for Leave to File Further Comments and Further Comments filed by the Ohio Public Utilities Commission, Motion for Acceptance of Late Filing and Comments of New York Public Service Commission, Supplemental Comments filed by the Computer and Business Equipment Manufacturer's Association, and Supplemental Comments filed by International Business Machines. While we only provided for the filing of comments in our Memorandum Opinion and Order, *supra*, and made no provision for the filing of any further comments, we believe the subject before us to be of such significance that we have accepted such late filed comments and further comments to assist us in determining our course of action.

4. GTE Service Corporation has filed a motion requesting that the Commission establish certain additional procedural dates or meetings for the purpose of obtaining comments on AT&T's Authorized Protective Connecting Module program. Continental Telephone Corporation filed Comments supporting this motion. AT&T has also filed a motion requesting us to institute further proceedings to explore the option of allowing connection of terminal equipment through discrete protective modules. In view of the action we are taking herein, we perceive no necessity for the procedures or meetings GTE Service Corporation and AT&T have requested, since in accordance with our Memorandum Opinion and Order released November 5, 1974, 49 FCC 2d 580, we have considered AT&T's Authorized Protective Connecting Module program within the context of Docket No. 19528. In this regard we also believe the record in this matter suffices for our deliberations and that oral argument is neither necessary nor helpful in this matter.

5. The Commission also has pending before it (1) a Petition filed December 27, 1973, by the North American Telephone Association For Amendment of Procedures, Issuance of a Notice of Proposed Rule Making and Establishment of Interim Procedures relative to the interconnection of customer-provided terminal communication equipment and systems and (2) a Motion filed September 26, 1974, by the Computer and Business Equipment Manufacturers Association for Separation of Issues and for an Order Authorizing a Program of Direct Interconnection of Customer Owned Data Terminal Equipment and Ancillary Telephone Equipment. In view of the action we are taking herein, we will dismiss these pleadings as moot.

BACKGROUND

6. This Commission and the courts have consistently enunciated the subscriber's right to make beneficial use of an interconnected device or communications system without causing harm to a telephone company's operations. On remand in *Hush-A-Phone*,[1] the Commission enunciated the following broad principle of law and policy:

> In addition to invalidating the defendants foreign attachment tariff regulations insofar as they bar the use of the Hush-A-Phone device, an inescapable consequence of the Court's opinion is to render such tariff regulations unjust and unreasonable *insofar as they may be construed or applied to bar a customer from using other devices which serve the customer's convenience in his use of the facilities furnished by the defendants and which do not injure the telephone*

[1] *Hush-A-Phone Corp. v. U.S.*, 99 U.S. App. D.C. 190, 238 F. 2d 266 (D.C. Cir. 1956).

companies' employees or facilities, or the public in the use of defendants' services, or impair the operation of the telephone system. As we construe the Court's opinion, a tariff regulation which amounts to a blanket prohibition against the customer's use of any and all devices without discriminating between the harmful and harmless encroaches upon the right of the user to make reasonable use of the facilities furnished by the defendants. Such a regulation goes beyond what is reasonably required in the interest of protecting the defendants' employees, facilities, the telephone system and the public from adverse effects. (emphasis supplied) 22 FCC 112, 113–114 (1957)

7. Relying on the holding *Hush-A-Phone, supra*, we found in *Carterfone*[2] that a device used to interconnect mobile radio systems to the interstate and foreign message telecommunications system filled a need, that its use did not adversely affect the telephone system, and that the AT&T tariff prohibiting its use was unreasonable and unlawful within the meaning of Section 201(b) of the Communications Act of 1934. In making it clear that our *Carterfone* decision was not limited to the Carterfone device *per se*, but was rather a broad general policy, we stated:

In view of the unlawfulness of the tariff there would be no point in merely declaring it invalid as applied to the Carterfone and permitting it to continue in operation as to other interconnection devices. This would also put a clearly improper burden upon the manufacturers and users of other devices. The appropriate remedy is to strike the tariff and permit the carriers, if they so desire, to propose new tariff provisions in accordance with this opinion. 13 F.C.C. 2d 420, 425

8. We further held that this broad *Carterfone* policy applied equally to devices which had direct electrical connections.[3] We noted that AT&T considered this to be a special category but had not clearly demonstrated the basis for this exception[4] (14 F.C.C. 2d 571, 573 (ftn. 4)), and went on to comment:

The primary contention upon reconsideration is that our decision permits the use of a myriad of customer-provided devices for interconnection without adequate exploration of the technical and economic problems. This record convinces us that there can be interconnection without harmful technical effects. With respect to possible economic effects from the interconnection of private systems—"the piecing out of common carrier services with unregulated systems"—no substantial effort was made on this record to demonstrate any harm from the interconnection of private mobile radio systems, and we therefore had no occasion to address ourselves to that question. We agreed that economic effects upon the carriers' rate structure might well be a public interest question. But it is an issue, if a carrier seeks to raise it, to be decided upon the facts, i.e., will there be a "cream skimming" effect, what will be the extent of it, and how does it weigh against the benefits of interconnection. *As is the case with the question of technical harm, a tariff is unreasonable if it assumes a priori a conclusion as to such an issue.* (emphasis supplied) (footnotes omitted). 14 F.C.C. 2d 571, 572–573.

9. We did not prescribe the terms of the tariff revisions required to satisfy the *Carterfone* policy, but left that to the initiative of the telephone company. AT&T filed new and revised tariffs and subsequent amendments on behalf of itself and concerned interstate carriers, which allow the interconnection of customer-provided equipment (1) through the use of carrier-supplied connecting arrangements subject to certain technical requirements, and, if required, network control signalling units; (2) in accordance with a carrier-administered attesta-

[2] *Carterfone*, 13 FCC 2d 420 (1968), reconsideration denied, 14 FCC 2d 571 (1968).
[3] *See ITT v. General Telephone and Electronics Corp.*, 518 F. 2d 913, 933 (9th Cir. 1975).
[4] *See Phonetele, Inc. v. California Public Utilities Commission*, 11 C. 3d 123, 520 P. 2d 400 (1974).

tion program for headsets and non-powered conferencing devices; and (3) in accordance with a carrier-administered program for conforming answering devices.

10. The *Carterfone* Decision placed the burden of proof squarely upon the carriers—not the users or this Commission—to demonstrate that a particular unit or class of customer-provided equipment would cause either technical or economic harm to the telephone network, note 4, *supra;* this burden was to be met *prior* to the filing of a tariff restricting the use of such equipment. The information accompanying the tariff revisions filed pursuant to *Carterfone* did not demonstrate that the direct electrical connection of all customer-provided equipment would cause harm unless accomplished through the carrier-supplied connecting arrangements provided for in the tariff. At best, it simply reflected one manner in which to protect the network. It was not even argued that this protection was the minimum protection required or the most cost effective. Nevertheless, the Commission, exercising an abundance of caution in protecting the telephone network from any possible harm, allowed the tariffs to become effective without ruling explicitly on their lawfulness.[5]

11. At the same time, the Commission instituted informal proceedings to obtain technical and operational data to assist its evaluation of the public interest factors involved in liberalizing the network control signalling unit and connecting arrangement provisions of the revised tariffs. Contracts to study these possible revisions were issued to the National Academy of Sciences and Dittberner Associates, and their subsequent reports together with comments from interested parties indicated that consideration should be given to revisions in MTS and WATS offerings under a program that would protect the telephone network from four types of harm: (a) hazardous voltages; (b) excessive signal power levels; (c) improper network control signalling and (d) line imbalance. Thereafter, the Commission created two advisory committees, pursuant to Executive Order 11007, to study the possibilities of initiating such a standards program for selected classes of equipment such as (1) customer-provided PBX's and (2) automatic dialers and recording and answering devices.

DOCKET NO. 19528 PROCEEDINGS

12. On June 14, 1972, the Commission instituted this proceeding by Notice of Inquiry and Proposed Rule Making, 35 FCC 2d 539 (1972), to determine whether and under what terms, conditions, or limitations the interstate MTS and WATS tariffs should be revised to allow customers to have the option of furnishing any needed network control signaling units and connecting arrangements (or the functional equivalent thereof), and to determine what rules, if any, the Commission should adopt with respect to the foregoing. In addition, a Federal-State Joint Board was established pursuant to Section 410 of the Communications Act of 1934, as amended, to submit its recommendations to the Commission concerning this matter.

13. In our First Supplemental Notice in Docket No. 19528, 40 FCC 2d 315 (1973), we questioned whether, at that time, it was feasible

[5] *AT&T "Foreign Attachment" Tariff Revisions*, 15 FCC 2d 605 (1968), reconsideration denied, 18 FCC 2d 871 (1969).

from a technical, engineering, operational and administrative viewpoint to establish an optional program in lieu of or in addition to the present tariff requirements for carrier-provided network control signalling units and connecting arrangements and requested comments concerning a number of reports and proposals. These reports and proposals include: (1) the report and recommendations of the PBX Standards Advisory Committee; (2) the proposal of the Office of the Chief Engineer of this Commission; and (3) the proposal of the National Association of Regulatory Utility Commissioners (NARUC) Staff Subcommittee Report on Communication Interconnection. In addition to these specific proposals, we also invited comments concerning other alternatives such as: (1) the Rochester Telephone Company's NPD program; (2) the establishment of standards by the carriers and the incorporation of such standards in tariffs or technical references with the carriers being responsible for the program's enforcement; and (3) leaving the tariffs unchanged but requiring the carriers to improve their services and applying the same practices to both carrier and customer-provided facilities. The Joint Board we convened in this matter has reviewed these comments and issued its Recommended First Report and Order which is presently before us for consideration.

14. The Joint Board has proposed that customer and carrier-provided ancillary and data terminal equipment be directly connected to the telecommunications network if it is registered with the Commission under a program similar to this Commission's existing type acceptance program for radio transmitting equipment. The proposed plan is to apply to all terminal equipment other than PBXs, key telephone systems, main telephones, extension telephones and coin telephones. Registration is to be based on representations and test data submitted by an applicant to the Commission. If the representations and test data concerning a particular device are found to comply with specific interface criteria and other requirements and the Commission determines that it is in the public interest, convenience and necessity, such device would then be registered. The Joint Board proposal would require each device to have affixed to it installation, maintenance and operating instructions, and would allow connection of registered devices to the network to be accomplished through the use of standard plugs, jacks and other simple arrangements as provided in tariffs.

15. The California Public Utilities Commission in its General Order No. 138 has adopted rules permitting the direct attachment to the telecommunications network of customer-provided ancillary and data terminal equipment and of protective couplers where they have been certified by a registered electrical engineer qualified in the field of communications equipment. The program applies only to customer-provided equipment, not to carrier-provided equipment. Certification is based on the registered engineer's examination of the design and operating characteristics of the device, the manufacturer's quality control procedures, and the servicing. The test standards and enforcement procedures regarding these factors are not specified in the plan, but are left to the discretion of the registered engineer. After being granted a registration number, the manufacturer must keep records of his quality control procedures, and these records are to be examined annually

by the certifying engineer. Further, manufacturers or vendors must offer a maintenance contract with all certified equipment.

16. We have given careful consideration to American Telephone and Telegraph Company's (AT&T) connecting arrangement program (AT&T Tariff F.C.C. No. 263, Sections 2.6.4(A) (1), (2) and (3); 2.64(B)(1); 2.64(D)(1)(a)),[5] AT&T's manufacturer attestation program for customer-provided headsets and non-powered conferencing equipment (Tariff 263, Section 2.64(E)),[5] AT&T's conformance program (APCM program) for answering devices (Tariff 263, Section 2.6.4(F)),[5] the Rochester Telephone Company's NPD program (Tariff 263, Section 2.9), the reports of the National Academy of Sciences and Dittberner Associates, the various reports of the several advisory committees and subcommittees, the recommendations of the Federal-State Joint Board, the California registration program, and all the comments of the many parties who have participated throughout the various stages of the proceedings herein. In addition, we have noticed other reports and materials, and where such were used in arriving at our findings they are so noted. In the seven years which have elapsed since our *Carterfone* ruling, the carriers have been afforded ample opportunity to propose effective procedures and/or tariff conditions to prevent harm without unduly restricting a customer's basic right to make reasonable use of the facilities and services furnished by the carrier. This the carriers have failed to do (with the possible exception of non-powered conferencing devices, headsets and conforming answering devices). The evidence before this Commission amply demonstrates that many "special" entities (e.g., gas, oil, electric, and transportation companies, selected industrial firms, the Department of Defense, the National Aeronautics and Space Administration, and customers in "hazardous or inaccessible locations") have long been and continue to be allowed to connect their equipment and facilities directly to the telephone network by means less restrictive than carrier-provided connecting arrangements (Tariff 263, Sections 2.7.5, 2.7.6, 2.7.7 and 2.7.8) apparently without causing harm to the network. We also note that there has been no demonstration of network harm resulting from the interconnected operation of some 1600 independent local telephone companies and the Bell System (including small rural, municipal, and co-op systems)—many of whom purchase and connect without benefit of carrier-supplied connecting arrangements the identical independently manufactured terminal equipment for which the individual user must lease carrier-supplied connecting arrangements. Accordingly, in view of our findings in this proceeding concerning the mechanisms which can cause technical harm and effective means for preventing such harms, the Commission has now reached three separate and independent conclusions. First, the present tariff provisions requiring the use of carrier-supplied connecting arrangements impose an unnecessarily restrictive limitation on the customer's right to make reasonable use of the services and facilities furnished by the carriers. Second, they constitute an unjust and unreasonable discrimination both among users (or classes of users) and among suppliers of terminal equipment. Third, the standards and procedures prescribed herein for the registration with this Commission of protective circuitry and/

[5] Similar tariff provisions appear in other sections of Tariff 263 (MTS) as well as Tariff 259 (WATS).

or terminal equipment will provide the necessary minimal protection against network harm which has been specified in various carrier operating procedures and/or the recommendations of the Joint Board, the California PUC, the NAS and Dittberner studies, and the Commission's interconnect advisory committees, and will serve the public interest. Equipment containing the appropriate FCC registered protective circuitry, or FCC registered terminal equipment, may, following the effective date of this Order, be connected directly with the telephone network pursuant to the procedures set forth in these rules, without benefit of carrier-supplied connecting arrangements. Carriers may continue to provide such connecting arrangements, if registered, and may require their use for equipment not registered with the FCC or not used in conjunction with appropriate FCC registered protective circuitry. Except as herein provided, carriers may not require the use of such connecting arrangements or other interface devices or arrangements for FCC registered equipment or protective circuitry, and may not impose other tariff conditions contrary to the *Carterfone* policy without prior approval of the Commission.

THE FCC REGISTRATION PROGRAM

17. The program which we are adopting was designed with the goals of (1) protecting the public switched telephone network from harms which might be caused by connection of terminal equipment to the network and (2) keeping the program as simple and easy to administer as is reasonably possible with a minimum of government intervention. Basically the program allows users to connect any terminal equipment to the telephone network if such equipment is connected through protective circuitry registered with the Commission or if such equipment is itself registered with the Commission. The option of registering only discrete protective circuitry rather than the entire terminal equipment will (1) eliminate unnecessary documentation relating to total system design and performance criteria (Even for complex terminal equipment and/or systems, this option will require documentation relating only to the discrete protective circuitry.); (2) remove the need for filing proprietary information, thus eliminating the need to establish cumbersome procedures for handling such information; (3) allow users and manufacturers greater flexibility in satisfying the requirements of our registration program through the separate purchase of protective circuitry, if desired; and (4) enable us to administer our registration program with an absolute minimum of expense to both the government and private industry—to the benefit of the ultimate users—while at the same time protecting the public switched telephone network from harms which could be caused by the connection of faulty terminal equipment.

18. As noted above, the Federal-State Joint Board recommended that PBXs, key telephone systems, and main station, extension and coin telephones be excluded from the registration program at this time, thus requiring that these devices continue to be interconnected with the network via carrier-provided connecting arrangements. In this respect the Joint Board plan differed from that proposed in 1972 by the FCC's Office of the Chief Engineer, although the Joint Board largely adopted the Chief Engineer's proposal. Many parties have

urged that some or all of these classes of terminal equipment be included, and point to the Joint Board's failure to provide any basis for such proposed exclusion. While it did not explicitly so state, we believe the Joint Board's recommendation to defer inclusion of these devices was based primarily on technical concerns relating to the more complex network control signalling functions performed by some of these devices. In view of the clarification of network harms; the delineation of the roles, responsibilities and incentives of the various parties in protecting against these harms; and the registration standards and procedures contained herein, we believe that many if not all the technical concerns reflected in the Joint Board's exclusion of these equipment classes have been mooted. With this clarification, we are tentatively of the view that there is no valid distinction as to the potential for harm from any of the excluded classes of devices. However, since all parties may not have considered it necessary fully to address the inclusion of PBX's, key telephones, and main stations at this time, in view of the Joint Board's recommendation, we shall afford interested parties an opportunity to comment further on the inclusion of these classes of equipment. Accordingly, PBX's, key telephone systems, main station telephones, coin telephones, and equipment connected to party lines [7] will be exluded from the registration program established herein, pending further order of the Commission.[8]

19. Several of the parties to this proceeding have suggested that it would be inappropriate to adopt new policies concerning interconnection prior to collection and evaluation of the pertinent data filed in Docket No. 20003 concerning the economic effects of such interconnection. Recognizing that Docket No. 20003 constitutes a broad fact-finding investigation of the economic implications and interrelationships among a number of industry developments, policies, and practices—some instituted pursuant to regulatory policy, others carrier-initiated—we previously held that "the commencement of the notice of inquiry in Docket No. 20003 does not necessarily preclude further action in Docket No. 19528." [9] In short, the Docket No. 20003 inquiry is not to become a "dumping ground" for existing docketed proceedings. Consistent with *Carterfone, supra*, as well as the more recent decision in *Mebane*, 53 F.C.C. 2d 473 (1975), we will afford any carrier the opportunity to demonstrate the need to restrict specific instances or classes of interconnection on the grounds of economic harm, and will continue to examine the broad, long-term and interrelated implications of interconnection, jurisdictional separations, and rate structures in Docket No. 20003. The present decision relates only to the requirements which interconnected devices must satisfy in order

[7] Since we do not now have interconnection criteria for party line service, we will, in the meantime, allow customer-provided terminal equipment to be connected through carrier-provided connecting arrangements as is now done under presently effective tariffs. Coin telephones are excluded because, under present regulatory policies, only telephone carriers may provide coin telephone service.

[8] While the rules proposed by the Joint Board listed extension telephones in the equipment to be excluded from the registration program at this time, we conclude that extension telephones properly fall within the category of "ancillary" devices included in the Joint Board recommendation. The record supports our view that there is no valid technical distinction between extension telephones and other "ancillary" devices. Because the standards adopted herein are equally applicable to extension telephones and because inclusion of extension telephones does not represent a significant departure from the Joint Board's recommendations, we feel that the public interest is best served by the prompt inclusion of extension telephones within the scope of our registration program.

[9] *Economic Implications Relating To Customer Interconnection, Jurisdictional Separations, and Rate Structures*, Docket No. 20003, 49 F.C.C. 2d 1238, 1240 (1974).

to avoid technical harm to the telephone network. In view of our findings in paragraph 16 above, we believe that the public interest would be best served by the prompt implementation of our registration program.[10]

20. The carriers have argued that, as they have every incentive as well as the technical and operational means to maintain a high quality service, a registration program for carrier-supplied equipment is unnecessary, and may impose additional expenses on them which must ultimately be borne by the telephone user. We do not question the carriers' dedication to high quality service, nor their desire and ability to protect the network from any harms which might be caused by carrier-supplied equipment. However, we note that carrier-supplied terminal equipment possesses the same *potential* for harm to the network as does customer-supplied equipment—particularly in view of the fact that much carrier-supplied equipment is purchased from independent manufacturers who market identical equipment to the general public. We also expect that the information provided by the carriers in their registration applications will be of considerable aid to the Commission as a benchmark against which other applications may be judged. Furthermore, when one participant in a competitive market is subject to regulatory constraints (e.g. registration of equipment) while another is not, there exists the possibility of using the registration, notification, and complaint standards and procedures for competitive advantage. In a related proceeding, the Courts have already commented on such a situation;[11] and the carriers themselves have made the same argument in similar circumstances. These countervailing considerations require a careful weighing to ascertain wherein the overall public interest rests. On balance, and particularly in view of the relatively straightforward and inexpensive registration program we envision, we believe the public interest will best be served by requiring that carrier-supplied terminal equipment be registered, and consistent with the Joint Board recommendation we shall so order. However, we plan to reexamine the situation within the first year of operation of this registration program to determine whether the public benefits of requiring registration of carrier-provided equipment continue to outweigh any costs resulting therefrom, and to rule accordingly.

Technical Requirements

21. The National Academy of Sciences, in its 1970 report to the Commission, identified four areas of potential "harm" which might arise as a consequence of permitting uncontrolled direct connection of equipment to the telephone network: (1) hazardous voltages, (2)

[10] Our *Carterfone* policy has permitted the public to utilize various types of equipment with the public communications network. It is our firm belief that public benefits have resulted from this policy. The purpose of Docket 19528 is not to revisit *Carterfone* but rather to review the present limitations imposed on the attachment of equipment to this network. Thus, issues relating to the potential overall economic impact of the *Carterfone* policy are beyond the scope of this proceeding. The potential economic consequences of *any* decision in this proceeding are minimal, since they affect only the differential costs and revenues associated with customer-provided vis-a-vis carrier-provided protective circuitry and procedures—not with the terminal device *per se*. In view of this we would expect that the parties in commenting on PBX's, key telephone systems, and main station telephones would limit their arguments to relevant matters and not to the basic policy decision enunciated in *Carterfone*.

[11] *Hush-A-Phone v. U.S.*, 238 F. 2d 266, 268–69 note 9 (D.C. Cir. 1956).

excessive signal power levels, (3) excessive longitudinal imbalance, and (4) improper network control signaling. The National Academy of Sciences reported that the carrier-provided protective connecting arrangements protected against such "harms" within the boundaries of acceptableness regardless of the design of particular equipment connected thereto. Our program adopts a similar approach. We have specified the boundaries which may not be exceeded for each of hazardous voltage, signal power and longitudinal imbalance. Without requiring any particular circuit design to be employed, we have required that the design of registered terminal equipment and registered protective circuitry assure that these boundaries are not exceeded, and will continue not to be exceeded, under foreseeable usage and mechanical and electrical stress. Registered protective circuitry is required to provide assurance of conformance to our interface requirements regardless of the particular equipment connected thereto and regardless of what failure modes such equipment may manifest. Registered terminal equipment is required to provide such assurance under all foreseeable failure modes of such registered terminal equipment and of equipment expected to be connected thereto. Such assurance may be provided either by incorporating protective circuitry in the registered terminal equipment, or, alternatively, by virtue of a design which precludes violation of the boundary constraints.

22. With the exception of on-hook impedance, we do not believe it is necessary to impose standards upon network control signaling. We are not persuaded that individual violations of criteria on compatible network control signaling will have any significant effect upon the telephone service of other telephone network users. Improper network control signaling will most directly affect the telephone service of the user of equipment which generates improper network control signals. A user thus has no incentive to generate improper network control signals, as he will only decrease the utility of his own telephone service by so doing (e.g. fail to receive telephone calls, be unable to generate telephone calls, or reach wrong numbers); thus we feel that any problems which may arise will be self-correcting. We would note that the present telephone company-provided connecting arrangements do not fully protect against improper network control signaling,[12] and that since such connecting arrangements were first offered in 1969, the carriers have not increased the level of protection against improper network control signaling provided by their connecting arrangements. From this we conclude that improper network control signaling has not been a significant problem to the carriers, and that the presently-effective approach of specifying proper network control signals in the tariffs, and in informational materials ("Technical References") distributed to equipment manufacturers has been effective, and has provided the requisite protection. We encourage the carriers to continue to provide informational materials to equipment manufacturers and others concerning network control signaling,[13] and commend the reports of our advisory committees on PBXs, telephone

[12] *See* Docket No. 19419 Tr. 3080-85; 3087-93; 4328-29; 4546-50; 4552-54; 4561-65; 4960-73, Testimony of L. Hohmann. Tariff F.C.C. No. 263, § 2.6.3.

[13] Section 68.110(a) imposes the requirement that the carriers supply compatibility information upon request; to the extent that such informational materials effect compliance with this rule, no additional action by the carriers will be necessary.

answering devices and telephone dialers to the attention of equipment manufacturers as one source of such information.

23. Should improper network control signaling proliferate on the telephone network, the point could be reached where telephone facilities which are shared among many network users (e.g. central office equipment, trunks, etc.) would be nonproductively engaged in reaching wrong numbers, and incompleted calls, etc., which would degrade the overall service quality. While we are convinced that such a situation will not arise, due to the self-correcting mechanisms previously noted, we would be receptive to amending our rules at any time to include evaluation of network control signaling functions of registered terminal equipment and registered protective circuitry, or to provide for manufacturer attestation of compatibility, should evidence to the contrary become available.

24. The technical requirements pertaining to registered terminal equipment and registered protective circuitry are contained in Subpart D of Part 68, and are explained in the following paragraphs. The term "reasonable application of earth ground", which appears in several of the rules in Subpart D, deserves particular note. Because the connection of earth ground to registered terminal equipment and registered protective circuitry may cause noncompliance with several of the technical requirements, it is important that such registered terminal equipment and registered protective circuitry be properly insulated and isolated from any "reasonable application of earth ground". In evaluating equipment, the following guidelines should be followed:

a. For protective circuitry, "reasonable application of earth ground" shall include physical contact of all exposed surfaces of the circuitry with a conductor connected with earth ground, and of physical contact of each non-telephone line connection with a conductor connected with earth ground, and with all possible combinations thereof;

b. For terminal equipment, "reasonable application of earth ground" shall include all reasonably foreseeable possibilities whereby earth ground may become connected with such equipment, including the possibility of physical contact of all exposed surfaces with a conductor connected with earth ground, the possibility of connection with earth ground of each power-line connection, and the possibility of connection with earth ground through foreseeable connection with other equipment.[14]

25. *Environmental Stress Simulation.* Registered terminal equipment and registered protective circuitry will be subjected to various environmental conditions during shipment and usage, and accordingly we have required, in Section 68.302, that harm does not arise in registered equipment either prior to, or after the application of thereinspecified stresses.

26. The specified requirements on vibration, temperature and humidity cycling are directly in accord with the requirements on such cycling presently effective for conferencing devices, and are similar to those employed for Authorized Protective Connecting Modules (APCMs)

[14] Foreseeable additional connection, must include all expected possibilities, such as accessory sockets (e.g. an earphone jack).

used with answering devices, both of which equipment classes are presently directly connected with telephone facilities.[15]

27. The specification of the metallic voltage surge parameter is derived from two presently-effective programs. The requirement imposed on conferencing devices is that a 1000 volt peak surge, having a 10 microsecond rise time to crest and a 1000 microsecond decay time to half crest be applied to the tip and ring telephone connections during the off-hook state.[16] The requirement applied to APCMs is defined in terms of a test circuit which applies similar surges.

28. Various specifications of the longitudinal voltage surge parameter were suggested to us. The requirement imposed on conferencing devices is that three 2500 volt peak surges of each polarity, having a 1.2 microsecond rise time to crest and a 50 microsecond decay time to half crest be applied between all telephone connections, connected together, and earth ground, under all reasonable conditions of connection of the terminal equipment with earth ground. The Joint Board recommended the use of such a surge only where external power is supplied to terminal equipment.[17] Our answering device committee recommended that such a specification be applied to power-line connections of that type of terminal equipment (and further recommended that testing be conducted in stages—first by pulsing at 500 volts, then 1500 volts and finally at 2500 volts). The similar specification for APCMs is defined in terms of a test circuit which charges a 0.1 microfarad capacitor to 2500 volts, and which then discharges that capacitor through a 60 microhenry coil (dc resistance less than 2.0 ohms) to the tip and ring connections of the terminal equipment, across which is connected a resistance of approximately 132 ohms. Such a circuit applies a longitudinal voltage surge of approximately 2 microseconds rise time to crest and 10 microseconds decay time to half crest to the APCM under two conditions of test: first, with the non-telephone connections grounded and the pulse applied to the telephone connections, and second, with the telephone connections grounded and the pulse applied to the non-telephone connections. In both tests, ground connections are made through a 14 microhenry coil, and the current through this coil is required to be less than 0.3 amperes, peak.

29. The purpose of stressing terminal equipment with longitudinal surges is to determine whether such equipment will continue to conform to our technical requirements if it is subjected to a voltage surge resulting from lightning. Since lightning may affect either an exposed telephone connection, or an exposed power connection to the terminal equipment, the APCM techniques of requiring testing by simulating a lightning-caused voltage surge on both sets of connections has merit, and we have adopted this approach. Thus, our rule requires that 2500 volt peak surges of each polarity, having a 2 microsecond rise time to crest and a 50 microsecond decay time to half crest (formed as the worst-case combination of the APCM and other specifications) be applied *first* between the telephone connections and earth ground,

[15] Similar requirements are recommended in our advisory committee reports, and in such reports detailed instructions on specific implementing tests are contained.

[16] This specification was also contained in our advisory committee report on answering devices.

[17] Section 68.304(b) of the Recommended First Report and Order of the Federal-State Joint Board.

under all possibilities of connection of the equipment with earth ground, and *second* between each power line connection and earth ground, and between each conductive surface on the exterior of the equipment and earth ground, with the telephone connections individually, and in combination, connected to earth ground.

30. *Leakage Current Limitations.* Registered terminal equipment and registered protective circuitry are required to be adequately insulated, to protect against telephone facilities becoming connected with power-line energy (hazardous voltages) and earth ground (longitudinal imbalance). While it is desirable to maintain perfect insulation between the telephone connections and power-line and/or ground, such insulation must be specified in terms of leakage current under the application of test voltages. We have had various specifications of such leakage current recommended to us.

31. The Joint Board recommended that 1500 volts, 60 Hertz, be applied to all possible combinations of interface leads, power leads, exposed conducting surfaces and common circuit ground and that the leakage current resulting therefrom be limited to 2.5 milliamperes, rms,[18] only in the case of equipment which is externally powered. California has required that leakage current in each of two test cases be limited to 2.5 milliamperes: (1) when 1500 volts is applied between telephone connections and power connections, and between power connections and exposed surfaces, and (2) when 1000 volts is applied between telephone connections and exposed surfaces.[19] In addition, California independently requires that power transformers have a voltage breakdown rating greater than 1500 volts between primary and secondary and between the transformer windings and (chassis) ground.[20]

32. The requirement on conferencing devices[21] is that leakage current from the telephone connections, strapped together, to exposed conductive surfaces (on the housing) and earth ground be less than 2.5 milliamperes under the application of 1000 volts, rms, 60 Hertz between the points under test (the specific test required is to gradually increase the test voltage from 0 to 1000 volts over a thirty second time period, apply the full 1000 volts for one minute, and then determine the leakage current after this 1½ minute time interval). The APCM specification separately tests the dielectric insulation on the APCM's internal isolating transformer, and the APCM's housing insulation. In the first case, 750 volts, rms, 60 Hertz is applied for sixty seconds between the telephone connections (connected together) and earth ground, with all non-telephone connections and conductive surfaces on the housing of the APCM also connected to earth ground, and the leakage current is required to not exceed 0.5 ma, rms. In the second case, 1500 volts, rms, 60 Hertz is applied for sixty seconds between the telephone and non-telephone connections (all connected together) and earth ground, with conductive surfaces on the housing of the APCM also connected to earth ground, and the leakage current is similarly required to not exceed 0.5 ma, rms.

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[18] Joint Board First Report and Order, Sections 68.304(c) and (d).
[19] California General Order No. 133, Section 5.4(c).
[20] *Ibid.*, Section 5.3(a).
[21] Section 6.3.2 of Bell System Voice Communications Technical Reference, PUB 45101, "Interface Specification 2001 (Non-Powered Conferencing Devices)", May 1973.

33. Our answering device committee recommended two separate requirements: first, that leakage between the telephone connections (connected together) and power connections not exceed 2.5 ma. rms., under the application of 1500 volts, rms, 60 Hertz, and second, that leakage between the telephone connections and all exposed conductive surfaces on the housing of such terminal equipment not exceed 2.5 ma, rms, under the application of 1000 volts, rms, 60 Hertz. Finally, our dialer committee recommended a slightly modified version of the answering device committee's specification whereby leakage current is required to not exceed 2.5 ma. rms. first, between the telephone connections and earth ground, and second, between the power connections and earth ground, under the application of 1000 volts, rms, 60 Hertz and 1500 volts, rms, 60 Hertz, respectively. The dialer committee also recommended that the 1500 volt test requirement be dispensed with for equipment not connected to an external source of power.

34. The only case of a leakage current specification lower than 2.5 ma. rms. having been employed has been the APCM specification. AT&T's use of the 2.5 ma. rms. specification for conferencing devices (which predates the answering device tariff exception), as well as the consistent use of this figure by our advisory committees and by the Joint Board and California, convinces us that 2.5 ma. rms. is a reasonable leakage current limit. As the Joint Board's requirement of determining leakage current under the application of 1500 volts, rms. for all possibilities of leakage current (power line to telephone connections, power line to exposed conductive surfaces, and telephone connections to exposed conductive surfaces) is inclusive of possible lower test voltages for some of these leakage current paths, we are adopting the Joint Board's uniform use of 1500 volts, rms. for evaluation, with the proviso that leakage current tests be performed on terminal equipment regardless of whether it is connected to an external power source.

35. *Hazardous Voltage Limitations.* Section 68.306 sets forth "fail safe" requirements on hazardous voltage. The stated limits are generally employed throughout the telephone industry as voltage limitations below which special protection of telephone craft personnel is not required. Equipment must be designed to avoid the application of voltages exceeding these limits under normal operation, since our other technical rules specify that permissible metallic ac voltages in normal operation, are defined by the signal power limitations (which are on the order of one volt, rms). The hazardous voltage limits are worst-case equipment failure limitations, and evaluation of equipment for compliance with these limits requires an analysis of all foreseeable failure modes of the registered terminal equipment or registered protective circuitry, and of equipment which is reasonably expected to be connected thereto. Subsection (b) of this rule defines what we expect to be a worst-case failure mode of equipment which might be connected with registered protective circuitry—the application of commercial power line voltage. We have chosen to require evaluation of the effects of applying 220 volts, rms, to protective circuitry in recognition of the usage of such power in data processing installations and commercial wiring, and in the belief that power sources which are reasonably expected to be available at locations where registered terminal equipment and registered protective circuitry will be employed will not exceed 220 volts, rms.

36. The specific limits which we have chosen conform to the recommendations of our PBX Advisory Committee and to AT&T's statements in a pending proceeding, Docket No. 19419, wherein AT&T stated the limits it employs for voltages permitted on its telephone plant. In Docket No. 19419, AT&T testified that the allowable voltage levels for continuous ac voltages are 70 volts, peak,[22] and for continuous dc voltages the limit is 135 volts to ground.[23] Our PBX Advisory Committee has recommended the following voltage limits between telephone conductors: 71 volts, peak ac, 135 volts, dc, 142 volts, peak for combined ac and dc; and the following voltage limits between a telephone connection and ground: 71 volts, ac, 135 volts, dc, 71 volts, peak for combined ac and dc. We have specified voltage limits which conform to both the PBX Advisory Committee's recommendation, and to AT&T's statement, as follows: between telephone conductors: 70 volts, peak ac, 135 volts, dc, 140 volts, peak for combined ac and dc; and between a telephone connection and ground: 70 volts, peak ac, 135 volts, dc, 70 volts, peak for combined ac and dc.

37. *Signal Power Limitations.* Signal power in the 300–3995 Hertz band is required to conform to two different criteria: (1) the three second averaged power, measured at a customer's premises is required not to exceed 1.00 milliwatt, and (2) the three second averaged power measured at a telephone company central office is required not to exceed 12 decibels below 1.00 milliwatt.[24] The first of these specifications is constant for all installations, whereas the second is variable, as different local loop attenuations will permit equipment at the customer's premises to apply differing maximum signal power levels at the premises without violating the central office power level limitation.

38. In the case of voice usage of the telephone network, the telephone companies have chosen to employ physical protection within their connecting arrangements only against violations of the first criterion above, i.e. the 1.00 milliwatt limitation measured at the customer's premises.[25] Since there has been no evidence of problems arising from this telephone company practice, our rule follows this approach.

39. The telephone companies have argued that data equipment does not necessarily use telephone facilities in the same manner as does voice equipment; i.e. that data signals do not follow the statistical patterns of voice signals and tend to present constant amplitude tones. They also argue that data signals of excessive power have a higher potential for causing loss of communications privacy of other telephone network users than would voice signals of similar excessive power, and that data users have some incentive to violate the power level limitations in order to lower their data error rates. Data equipment manufacturers have argued that there is no incentive for users to exceed the power level limitations as degradation to their data communications service may result, and that the telephone companies' suppositions have not been substantiated.[26] We are taking no position as to the validity of these

[22] "Peak" voltage is intended to mean one-half the peak-to-peak amplitude excursion of an alternating voltage waveform.

[23] Bell Exhibit No. 3 in Docket No. 19419, testimony of L. Hohmann.

[24] Tariff F.C.C. No. 263, Message Telecommunications Service, Section 2.6.4.

[25] This has been done on the theory that due to the statistical nature of human speech, and disincentive to violate maximum power level requirements when humans are speaking, prohibitory language concerning the remaining power limitation which is contained within the tariffs, and in informational material distributed to equipment manufacturers ("Technical References") provides adequate protection.

[26] These arguments have been advanced both in this proceeding and in Docket No. 19419.

arguments, as this is at issue in a pending proceeding, Docket No. 19419. We note, however, that the carriers' present data access arrangements provide assurance of compliance with both sets of power limitations, the 1.00 milliwatt customer's premises limitation and the 12 decibel lower central office power limitation. Pending the outcome of Docket No. 19419, and expressly subject to the ultimate findings and conclusions which may be reached therein, we are establishing rules for connection of data terminal equipment which maintain the *status quo*. Our rules accept AT&T's proposals for dealing with data equipment signal power levels, as a practical and reasonable means of providing such protection.

40. A data equipment manufacturer is given the option of either designing its terminal equipment, or protective circuitry, to assure that data signal power levels do not exceed a universal, fixed level of −4 dB with respect to one milliwatt, measurable at a simulation of the interface, or, if it wishes to optimize performance of equipment on each specific telephone line to which it may be connected, it has the option of designing terminal equipment, or protective circuitry, to assure that the data signal power level does not exceed the particular, unique level, which that telephone line permits without exceeding the −12 dB central office limitation. Again, following AT&T's proposal, we are adopting the requirement of using a design of such equipment or circuitry which is capable of responding to information which the carrier will provide as to the particular permitted signal power level for each telephone line to which the customer intends to connect data equipment. The carrier will determine the particular permitted power for each telephone line for which it receives notification that its customer intends to connect data equipment to a Programmable Data Jack, and will make appropriate connections in the Jack to communicate this information, automatically, to the data equipment, thereby removing the possibility of improper adjustment of the signal power. The specific evaluation required by Section 68.308(b)(2) assures that registered data terminal equipment, or registered data protective circuitry will appropriately respond to the information provided it by the Programmed Data Jack.

41. *Longitudinal Balance Limitations.* Section 68.310 sets forth minimum requirements on longitudinal balance. Longitudinal balance of terminal equipment depends upon the degree of balance of the impedance of the tip and ring connections of the terminal equipment to earth ground. Thus, evaluation of terminal equipment and protective circuitry designs for conformance to the longitudinal balance requirements must include consideration of all foreseeable possibilities of connection of such equipment and circuitry with earth ground.

42. We have received several different suggestions for an appropriate specification for longitudinal balance. The Joint Board and California recommended that each of the voltages on the two telephone connections (tip and ring) with respect to earth ground not differ by more than one percent, in the voice frequency band. Conferencing devices are required to maintain longitudinal balance, as given by the parameter we have defined in our "Definitions" section, greater than (120—20 $\log_{10}$ frequency) over the frequency range of 60 to 4000

Hertz, which is about 85 decibels at 60 Hertz and 48 decibels at 4000 Hertz.[27] Our answering devices advisory committee recommended that this same balance parameter exceed 40 decibels over the 60 to 4000 Hertz frequency range, and specified a particular test circuit for determining balance in accordance with this parameter. Our PBX advisory committee also recommended a minimum balance of 40 decibels over the 300 to 3400 Hertz frequency range.

43. We are rejecting the specification advanced by the Joint Board which is ambiguous. This specification is stated in terms of percentage, without stating the base on which such percentage is to be computed. Proper design of equipment intended for connection to the switched telephone network requires that essentially no longitudinal voltage be applied by terminal equipment at the interface. The ambiguous specification employed by the Joint Board will not necessarily insure this.

44. The longitudinal balance parameter which we have defined has been used by our advisory committees, and by the telephone companies in setting requirements on conferencing devices. We have also defined the balance parameter in terms of a particular test circuit which may be applied to terminal equipment to further remove ambiguity. This test circuit was advanced by our answering device advisory committee in its report.[28] In our view, the answering device advisory committee's requirement of testing longitudinal balance with an applied longitudinal voltage of 12.5 volts, rms (that is, by applying equal voltages of 25 volts, rms, to tip and ring) is sound, as semiconductors which only enter the "active" state on the application of a sufficiently high test voltage will thereby be activated. The remainder of the advisory committee's test circuit flows from the definition of the balance parameter. Finally, we have adopted the balance requirement which the telephone companies have required of conferencing devices. Such devices are presently exempt from the general tariff requirement of connection solely through a protective connecting arrangement which prevents longitudinal imbalance from affecting a telephone line. The telephone companies' requirement on conferencing devices is a clear and unambiguous statement by them of what they consider acceptable. Thus, the longitudinal balance is required to exceed (120—20 $\log_{10}$ frequency) at all frequencies in the band 60 to 4000 Hertz.

45. *On-hook Impedance Limitations.* As previously noted, we are persuaded that protection against improper network control signaling is not generally required. However, there is a need to impose conditions on one aspect of network control signaling—the on-hook impedance. If a telephone call is made to a telephone line to which an excessively low impedance is connected, or to a telephone line which causes excessive dc current to flow during the application of a ringing signal, the called party's central office will immediately cause the ringing signal to cease. The calling party will hear no audible ringing tone (a "ring-back" tone) and will assume that the call did not go through.[29] We are

[27] Section 6.2.3 of Bell System Voice Communications Technical Reference, PUB 45101, "Interface Specification 2001 (Non-Powered Conferencing Devices)", May 1973.

[28] See Section 5.10 of the Advisory Committee Report on Answering Devices, May 21, 1973.

[29] *See* Bell Ex. 3 and Tr. 4004–05 in Docket No 19419 for discussion of "pretrip" and "false trip" and the expected effects thereof.

persuaded by the carriers' arguments that after several repeated tries to complete such a call, the caller will usually involve telephone company repair personnel. To prevent this non-productive use of telephone facilities, we are requiring assurance that on-hook impedances (the impedances presented to a ringing signal) are adequately controlled.

46. However, the particular permitted on-hook impedance on any given telephone line is variable, and depends upon such factors as the length of the line, the type of central office, and the electrical characteristics of the line (and in the case of PBX trunk connections, may depend on whether or not double-speed dialing is to be used). Normal telephone lines may be connected with one to five paralleled standard telephone ringers, depending upon these factors. The telephone companies have dealt with this requirement by rating each telephone line for the maximum number of "ringing bridges", or paralleled standard ringing impedances, through the use of tables which account for the factors involved in such a determination.[30] When a telephone company customer requests that additional equipment be provided by the telephone company (including equipment such as a connecting arrangement), the telephone company determines whether the addition of such equipment will exceed the "ringing bridge" limitation on the customer's telephone line.

47. We have established a similar mechanism for all terminal equipment. Section 68.312(b) requires that a determination be made as to the equivalent number of standard telephone ringers (the Ringer Equivalence Number), which one unit of registered terminal equipment or registered protective circuitry represents.[31] The customer merely adds the number of ringers which are connected to a telephone line to the Ringer Equivalency Number which will appear on the label [32] of registered terminal equipment or registered protective circuitry which he may wish to connect. The sum must not exceed the "ringing bridge" maximum which the telephone company specifies for his particular line. This technique imposes no additional record-keeping requirements on the telephone companies as it follows their already-established practices. At the same time, it provides some added flexibility to equipment manufacturers, as they are not limited to using the *same* impedances as the telephone companies' telephone sets now use—they may use higher impedances and thereby permit more equipment to be connected to a customer's telephone line.

48. Our specific test requirements are drawn from the telephone companies' submitted ringer impedance curves and from comments of

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[30] Section 812-015-170 of the Bell System Practices, AT&T Company Standard, Issue 2, June 1972 "Ringing Ranges and Ringing Bridge Limitations for Lines in Dial Offices"; Section 471-100-040 of the General System Practices, GT&E Standard, Issue 1, January 1968 "Line Leakage and Ringing Bridge Limitations". Official notice of both of these documents is hereby taken.

[31] Figure 1 of Section 68.216(a) of the Joint Board's Recommended First Report and Order is an incorrect (and ambiguous) graph of a standard ringing impedance. This graph was first published by our answering devices advisory committee in its draft and final reports on requirements for such devices during 1973, and was (apparently) reproduced by the Joint Board. AT&T and GTE both maintained at the time of publication of the answering devices report, and in their comments on the Joint Board Report that the curve was incorrect, but until we informally requested that a correct curve be furnished, no such curve was supplied. In furnishing a corrected curve, AT&T and GTE indicated that in order to provide such information, they recently ran laboratory tests specifically to derive the correct curve.

[32] Section 68.300(a) of our rules requires that the Ringer Equivalency Number, determined in accordance with Section 68.312, be displayed on the equipment label.

the telephone companies on the answering device advisory committee's report. Since the telephone companies have provided us with magnitude-impedance versus frequency curves which were obtained through the use of a 10 volt, rms, test oscillator, we have similarly required that determinations of magnitude-impedance be made using a 10 volt source. The advisory committee report specified 1.5 ma as the maximum permitted dc current to be drawn by a ringing impedance during the application of a simulated ringing signal, and we have adopted this specification. As General Telephone and Electronics had commented that their central offices use ringing signals in the frequency range of 16⅔ to 66⅔ Hertz, and ringing voltages that might be as high as 75 volts dc superimposed on 100 volts, rms, we have adopted these parameters as an inclusive specification which is slightly more stringent than AT&T's use of 20 or 30 Hertz ringing signals at slightly lower voltages.

Standard Plugs and Jacks

49. Section 68.104 requires that, except for telephone company-provided ringers, all terminal equipment be connected to the telephone network through standard plugs and jacks. Telephone company-provided ringers are excepted so as to permit a customer to have a permanently connected ringer not subject to accidental disconnection. The general requirement for standard plugs and jacks is based on the assumption that any user will be able to plug in terminal equipment without special installation instructions or training. By imposing this requirement, we believe it is unnecessary to impose special requirements pertaining to installation of registered equipment.[33] We have purposefully declined to prescribe specific standard plugs and jacks, including a Programmed Data Jack design, in the belief that acceptable designs will be voluntarily arrived at by cooperative action between the carriers and the terminal equipment industry.

If jointly sponsored designs for standard plugs and jacks are not expeditiously arrived at, we will prescribe specific designs. We will require that any entity be permitted to manufacture and supply standard plugs for use with registered terminal equipment and registered protective circuitry, without being subject to licensing by a telephone company and without any other telephone company-imposed restrictions.

Notification to Telephone Company

50. We have included a requirement that any customer desiring to connect terminal equipment to the telephone network must give notice to the telephone company. This will allow the telephone company to keep complete and accurate records of all equipment connected to each telephone line, and will aid in the performance of both routine maintenance and repairs. It will also enable the telephone companies to have at their disposal certain statistical information regarding interconnection (which may at a future date be required to be furnished this Commission). Since the notification to the telephone company

[33] We note that this approach has already been adopted by the telephone carriers' attestation program for headsets and non-powered conferencing devices, by their conformance program for answering devices, and by their long standing practice of providing portable extension telephones.

includes the F.C.C. Registration Number, this information will enable the telephone company to identify all customers using a particular type of registered equipment, if it should become necessary to notify such customers, in special circumstances such as revocation of an equipment registration number. Furthermore, since the notification also includes the Ringer Equivalence Number, the telephone company will be able to inform its customers as to whether such registered equipment may be connected to the telephone line without exceeding the ringing bridge limitation (maximum number of ringers which may be connected) for that telephone line.

Incidence of Harm

51. Although our rules are designed to assure that no harm from terminal equipment will ever reach the telephone network, Section 68.108 gives the telephone company the right to temporarily discontinue a customer's service, should any harm to the telephone network be caused by such customer's terminal equipment. Assuming full compliance with all the rules and regulations in Part 68, we would expect that no such temporary discontinuances would occur; however, out of extreme caution, we believe that the telephone company should have the option available to it of temporarily discontinuing a customer's service, should the facts of a given situation clearly warrant such extreme action. If a complaint is brought against the telephone company as a result of a temporary discontinuance, the telephone company will have the burden of proving that such action was reasonable.

Repair of Equipment

52. Section 68.216 sets forth our requirements on the repair of registered terminal equipment and registered protective circuitry.[34] In order to maintain the level of assurance accorded by the design and manufacture of such equipment, repairs must be performed by the manufacturer or assembler of such equipment or by their authorized agent. However, we will allow routine repairs, such as fuse replacement, the changing of a pilot lamp, etc., to be performed by users, where the manufacturer or assembler satisfactorily demonstrates that the performance of such routine repairs will not result in a violation of the requirements of Subpart D of our rules. This limited exception, however, is to be construed narrowly, as we do not wish it to open the door to uncontrolled maintenance activities which may have some effect upon compliance with our technical requirements.[35]

Registration Procedures

53. Subpart C of the rules contains all the rules governing the procedures to be followed in registering terminal equipment and protective circuitry. These rules have been designed to insure that the Commission retains complete control over the registration program, while at the same time the required interaction between industry and the Commission is reduced to a minimum. We have accomplished this by adopting

[34] Section 68.216 is in no way intended to limit a user's ability to repair any parts in terminal equipment other than registered protective circuitry.

[35] We would note that where registered protective circuitry is fabricated on a plug-in subassembly in such manner that by no foreseeable failure to properly insert or remove such a subassembly, can a violation of the requirements of Subpart D of these rules occur, then we would consider the limited exception to this rule as applicable if the user "repairs" failed registered protective circuitry by plug-in replacement.

a plan whereby equipment sought to be registered is to be tested by the manufacturer or assembler rather than the government with the test results submitted along with the application for registration. While we do not expect that the administration of this program will routinely entail physical examination and/or testing of terminal equipment or protective circuitry, the Commission specifically reserves the right to do so upon complaint or upon its own motion. We feel that this approach is simple and efficient from a regulatory point of view and will entail a minimum of administrative and other expense.

54. While we have provided that applications for registration will be placed on public notice, we wish to stress that we will not permit this procedure to become a means for delaying registration grants. All comments must be supported by relevant data and address the capability of the equipment or circuitry to comply with the technical requirements of Subpart D. Comments addressing other issues will not be entertained. In setting forth the rules relating to registration procedures, we have not specified the particular form an application should take nor have we indicated appropriate fees for registration. These, and other procedural matters will be addressed in future orders prior to the effective date of these rules.

CONCLUSION

55. We conclude that the Federal registration program described above and set out in the appendix hereto will provide the necessary protection for the telephone network from harms caused by the connection of terminal equipment thereto, and that adoption of this program will serve the public interest. In view of the action we are taking herein, i.e., adoption of a Federal registration program applicable to all classes of terminal equipment, we have further concluded that the proceedings in Docket No. 19528 should be terminated. However, as the registration program established herein is new, we believe it should be subject to continuing review and modification, if necessary, as actual experience under the program warrants. Accordingly, the Commission will continue to confer, as appropriate, with state commissions concerning those interconnection matters over which the state commissions and this Commission have jurisdiction.

ORDER

56. In view of the foregoing, IT IS HEREBY ORDERED, pursuant to Sections 4(i), 4(j), 201–205, 208, 215, 218, 313, 314, 403, 404, 410 and 602 of the Communications Act that the Commission's Rules and Regulations are amended by adding a new Part 68 as shown in the appendix hereto, effective April 1, 1976.[36]

57. IT IS FURTHER ORDERED That the pleadings mentioned in paragraph 4 above are DENIED and the pleadings mentioned in paragraph 5 above are DISMISSED.

58. IT IS FURTHER ORDERED That interested parties may file comments not later than December 11, 1975, directed to the planned

[36] Part 68 of the Commission's Rules and Regulations is not applicable to terminal equipment connected to the telephone network prior to the effective date of these rules.

inclusion of PBXs, key telephone systems and main station telephones in our registration program.

59. IT IS FURTHER ORDERED That AT&T revise its Tariffs F.C.C. Nos. 259 (WATS) and 263 (MTS), on not less than 60 days notice, in accordance with the requirements of this Report and Order, to be effective on the effective date of the rules in Part 68.

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS, *Secretary.*

CONCURRING STATEMENT OF COMMISSIONER BENJAMIN L. HOOKS

(In re Connection of Terminal Equipment to the Telephone Network)

As a member of the Federal-State Joint Board which has been working on interconnect problems for the past several years, I concur in the main with the program hereinabove devised as a plausible solution to the principal issue of physical harm to the existing network. While the program is no doubt imperfect, and experience is likely to expose deficiencies in operational aspects (*e.g.*, attribution of responsi-

bility for malfunctions, assessment of service costs, enforcement against non-complying manufacturers, installers and maintenance suppliers, accreditation of testing sources), the Commission, for better or worse, has made the fundamental judgment that terminal interconnection is in the public interest; and, thus, reasonable standards are mandatory to effect this policy.

In concurring, however, I fully reserve the arguments I made in *Mebane Home Telephone Company of North Carolina*[1] with respect to expansion of our interconnection program in advance of the outcome of our Docket 20003 proceeding which is examining the economic impact of our interconnect policies. I remain concerned about the loss of revenues to the telephone companies, particularly—as in *Mebane*—the small, rural systems and cannot help but ponder the manner in which such losses, if significant, will be offset.

I cannot, nevertheless, fully join my majority colleagues in the requirement that telephone companies also register all their equipment with the Commission prior to installation.[2] Although sympathetic to the need to ensure that the telcos do not clamor for higher protection standards from independent manufacturers than imposed on themselves and favor an approach that assures that required competition is as fair as possible, registration of the phone companies' own equipment is an unnecessary over-reaction.

The telephone companies, unlike the independent manufacturers, have an inherent incentive in protecting the network (*viz.*, reduction of maintenance and service, promotion of overall telephone usage); that is why we have never required equipment clearance in the past. To do so now merely because some protection from foreign attachments is necessary is regulatory overkill which cannot be supported by logic or experience. We have ways, short of meaningless registration, to preclude possible anti-competitive practices. Our record, thus far, contains no such anti-competitive finding.

If, in the future, it appeared that the phone companies were abusing equipment clearance procedures for competitive advantage, we might impose such bureaucratic rigmarole as telco equipment registration as a last resort. We should not, however, impose such expenses on the public (through increased governmental and industry costs) at the outset.[3]

Accordingly, while I do not dissent to the program overall, the foregoing prevents my unqualified approval and I would have invited further comments on the telco registration aspect of our program because the issue is so unique.

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[1] 33 FCC 2d 473 (1973) (Commissioner Hooks, dissenting).

[2] Aware that I was part of the Joint Board which included telco registration of equipment in its proposal, the responses thereto have convinced me that such a requirement is wasteful of relevant resources.

[3] The requirement that over 1,800 independent (non-Bell) telephone companies register their own equipment (even if only by cross-reference) along with hundreds of unknown suppliers must mean an unnecessary proliferation of the bureaucracy, whose job it will be to review and issue *pro forma* registration acknowledgments to telcos which already do an adequate job of protecting their network. While I do not subscribe to wholesale de-regulation and have urged an increase in our common carrier manpower to better regulate giants like AT&T (*GTE Satellite Corp.*, 43 FCC 2d 1168, 1169 (1973) (Commissioner Hooks, concurring)), I would use our scarce resources for tasks far more vital than what augurs to be cosmetic "make-work." While it is imperative that we know and understand what standards the telephone companies consider satisfactory if we are to intelligently regulate interconnection and undoubtedly should have secured such in the process of Docket No. 19528, discrete telco registration seems to be plain old red tape. File a form and pay a fee; timeless government response in the Computer Age.

CONCURRING STATEMENT OF COMMISSIONER GLEN O. ROBINSON

I believe that this is the proper time for the Commission to extend registration requirements to all terminal equipment, including PBX, key telephone and main station equipment and ancillary devices. Our information and understanding is at present sufficient to allow us to extend our registration program to all such equipment. The Commission apparently acknowledges that there is no valid distinction between devices required to be registered and devices to which the registration requirements do not apply, in terms of their potential for harming the switched network. However, because "all parties may not have considered it necessary to fully address the inclusion of PBX, key telephone and main stations" the Commission has decided to seek further comments on the inclusion of PBX, key telephone and main station equipment. I disagree with this decision.

The proposed registration of all such equipment was unmistakably included in the proposal originally advanced by the Chief Engineer. It was commented on by many parties. Every interested party has had, in ample measure, both fair notice and the fullest opportunity to comment on every aspect of this case, including the registration of PBX, key telephone and main station equipment. Moreover, I venture to guess that any attempt to distinguish between ancillary equipment and PBX, key telephone, and main station equipment on technical grounds [1] will prove to be futile. Futility may not stop the Commission, however, and in consequence, one must look for a host of new (and, needless to say, unnecessary) problems for us (or the courts) to resolve. First and foremost, what properly constitutes data and ancillary equipment? What rule can we prescribe that will distinguish between a data terminal with an auxiliary voice capability for coordination, and a voice terminal with an auxiliary data capability? How will the line be drawn between voice and data services? For a teaser on how difficult this definitional problem is now—leaving aside how impossibly difficult it will obviously become in the future—one need only consult the Bell product notice taken from *Communications News*, Nov. 1975, p. 85, set out in the margin.[2]

Consider the dilemma created by the existence of a customer-owned protective connecting module, that will have to be certified as able to protect the public switched network from all harms that can be generated by improper input signals. If a user were to connect a voice terminal to the network through such a protective module, there would be no occasion for us to require disconnection because there would be no risk of technical harms to the system; the module is supposed to protect (and we certify that it does in fact protect) against those very harms. The principle of allowing customer-owned equipment to be interconnected to the public switched network is well established. We should not, therefore, be telling the users: "No, you

[1] We can set aside economic considerations insofar as these are, as the Commission emphasizes, not properly embraced within this proceeding.

[2] Telephone for Electronic Funds Transfer Functions.—The Transaction II telephone for credit-card authorization, check verification, and other electronic funds transfer functions is designed for use in systems not equipped with audio-response units as well as voice-response applications. The telephone features an 8-character visual display, hands-free operation, and the ability to operate both in a voice-only system and in a data-oriented system. The Transaction II telephone contains all of the features of the Transaction I telephone including optional green/yellow lamp operation using keyed answer tone reception. A data receiver which operates at 150, 110, or 75 b/s with frequency-shift keyed data is also featured. Use card or write *AT&T, 195 Broadway, New York, New York 10007.*

cannot interconnect your equipment through your module; instead, you must rent a connecting module from the carrier even though we know that your module will protect the network from all possible harms." Such a position is illogical formally; it is not consistent with our policy of promoting competition, and (beyond either of those objections) it is unwise on its own merits.

One final comment on the scope of our registration program. For the present, I concur in the Commission's decision to require registration of carrier-supplied equipment. However, because I believe that the carriers do have an incentive, not shared by the interconnect companies, to protect the network against "harms," I concur in this requirement on the understanding that earnings will not necessarily be subject to the same technical standards as would be appropriate for interconnect companies. Thus, in judging carrier equipment, I assume we will take account of the special position of the carriers as network service providers and not merely equipment providers.

APPENDIX G

Second Report and Order in Docket 19528,
58 F.C.C. 2d 736 (1976)

F.C.C. 76-242

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of	
PROPOSAL FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)	Docket No. 19528

SECOND REPORT AND ORDER

(Adopted: March 18, 1976; Released: March 18, 1976)

BY THE COMMISSION: COMMISSIONER HOOKS DISSENTING AND ISSUING A STATEMENT; COMMISSIONER QUELLO DISSENTING.

1. In a First Report and Order herein (First Report), released November 7, 1975, 56 FCC 2d 593, the Commission established a registration program designed to allow users of the nationwide telephone network to connect terminal equipment other than PBXs, key telephone systems, main station telephones, and coin telephones to the network without the need for carrier-supplied connecting arrangements, provided they comply with the standards incorporated in the registration program to protect the network from harm. The standards and registration procedures are contained in a new Part 68 of the Commission's Rules.

2. While the Commission was tentatively of the view that main telephones, private branch exchange (PBX) equipment, and key telephone (KT) equipment presented no valid distinction as to potential for "harm," compared with equipment already within the scope of Part 68 (*see* First Report, paragraph 18), it offered parties to this proceeding an additional opportunity for further comment on their inclusion.[1] Comments were received from telephone companies (the Bell System Companies (hereinafter, AT&T), GTE Service Corporation and affiliated telephone companies (hereinafter, General), United Systems Service, Inc., and Continental Telephone Corporation) and their trade associations (National Telephone Cooperative Association; United States Independent Telephone Association); the United States Department of Justice; the Rural Electrification Administration (REA); the North Carolina Utilities Commission (NCUC); user groups (Association of American Railroads, Utilities Telecommunications Council, American Petroleum Institute, and Ad Hoc Telecommunications Committee); and equipment manufacturers and their trade associations (North American Telephone Association, Computer and Business Equipment Manufacturers Association, the Electronic Industries Association, International Telephone and Telegraph Corporation, Danray, Inc., Com-Path Division of Scott-Buttner Communications, Inc., and DASA Corporation).

[1] *See* 56 FCC 2d 626 (1975).

3. The comments listed in paragraph 2 above, fall into two general categories: *first*, there are comments which argue that it is inappropriate to include main station telephones, PBXs and key telephone systems within the scope of the FCC's registration program, and *second*, there are comments which argue that the Part 68 rules must be modified before including such equipment in the program.

4. Following the filing of these comments, the Federal-State Joint Board, on February 25, 1976, adopted a Recommended Second Report and Order, which recommended that main telephones, key telephone systems, and PBX equipment not be included in the registration program adopted by the Commission in its First Report and Order in this proceeding. This recommendation was based solely on the Joint Board's general fears concerning possible revenue losses the telephone companies may suffer as a result of competition in the terminal equipment field—not on any asserted danger of technical harm to the network.

Delineation of the Issues

5. The matter now before the Commission is a direct outgrowth of, and falls within the overall policy framework established by, the Commission's *Hush-A-Phone* and *Carterfone* decisions.[2] In *Hush-A-Phone* the Commission ruled, pursuant to judicial guidelines, that:

> In addition to invalidating the defendants' foreign attachment tariff regulations insofar as they bar the use of the Hush-A-Phone device, an inescapable consequence of the Court's opinion is to render such tariff regulations unjust and unreasonable *insofar as they may be construed or applied to bar a customer from using other devices which serve the customer's convenience in his use of the facilities furnished by the defendants and which do not injure the telephone companies' employees or facilities, or the public in the use of defendants' services, or impair the operation of the telephone system. As we construe the Court's opinion, a tariff regulation which amounts to a blanket prohibition against the customer's use of any and all devices without discriminating between the harmful and harmless encroaches upon the right of the user to make reasonable use of the facilities furnished by the defendants.* Such a regulation goes beyond what is reasonably required in the interest of protecting the defendants' employees, facilities, the telephone system and the public from adverse effects. (emphasis supplied) 22 FCC 112, 113-114 (1957).

6. In *Carterfone*, the Commission applied the same basic principles in ruling that a device used to interconnect mobile radio systems to the interstate and foreign message telecommunications system filled a need, that its use did not adversely affect the telephone system, and that the AT&T tariff prohibiting its use was unreasonable and unlawful within the meaning of Section 201(b) of the Communications Act of 1934. The Commission also made it clear that the *Carterfone* decision was not limited to the Carterfone device *per se*, but was rather a broad general policy.[3]

7. Pursuant to the *Carterfone* decision, AT&T filed tariffs (in which its connecting carriers concurred) which generally allowed the interconnection of all types of customer-provided terminal equipment, provided that direct electrical connection would be accomplished only through carrier-supplied "connecting arrangements," (interface devices

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[2] *Hush-A-Phone Corp.* v. *U.S.*, 99 U.S. App. D.C. 190, 238 F.2d 266 (D.C. Cir. 1956); *Carterfone*, 13 FCC 2d 420 (1968), reconsideration denied, 14 FCC 2d 571 (1968); *see also*, *Interstate and Foreign Message Toll Telephone, etc.*, 56 FCC 2d 593, 594-96 (1975).

[3] The parties recognized this and themselves argued on a broad policy basis. *See*, *Carterfone*, 13 FCC 2d at 425 (1968).

designed to protect the network from technical harm). Without ruling as to the necessity for or lawfulness of the tariff requirement that carrier-supplied connecting arrangements be employed, the Commission allowed the Carterfone tariffs to go into effect. Thus, since 1968, customers have been afforded the right pursuant to *Hush-A-Phone* and *Carterfone* to provide their own terminal equipment of all types, and independent manufacturers and distributors have been afforded the opportunity to supply such equipment to the public in competition with the vertically integrated telephone industry.

8. In recognition of the fact that the post-Carterfone tariff conditions continue to impose certain restrictions on both the customer and the independent supplier of terminal equipment, the Commission at the same time instituted informal proceedings to obtain technical and operational data to assist its evaluation of the public interest factors involved in the possible liberalization of the network control signalling unit and connecting arrangement provisions of the revised tariffs. Further, on June 14, 1972, the Commission instituted this proceeding by Notice of Inquiry and Proposed Rulemaking, 35 FCC 2d 539 (1972), to determine whether and under what terms, conditions, or limitations the interstate MTS and WATS tariffs should be revised to allow customers to have the option of furnishing any needed network control signalling units and connecting arrangements (or the functional equivalent thereof), and to determine what rules, if any, the Commission should adopt with respect to the foregoing.

9. On November 7, 1975, after lengthy proceedings in this Docket, the Commission issued its First Report and Order, in which it concluded that:

(1) The present tariff provisions requiring the use of carrier-supplied connecting arrangements impose an unnecessarily restrictive limitation on the customer's right to make reasonable use of the services and facilities furnished by the carriers.
(2) They constitute an unjust and unreasonable discrimination both among users (or classes of users) and among suppliers of terminal equipment.
(3) The standards and procedures prescribed for the registration with the F.C.C. of protective circuitry and/or terminal equipment will provide the necessary minimal protection against network harm, which has been specified in various carrier operating procedures and/or the recommendations of the Joint Board and others, and will serve the public interest.

10. While the proceedings in this Docket were continuing, the Commission initiated a broad fact-finding inquiry into the economic implications and interrelationships among a number of industry developments, policies, and practices—some instituted pursuant to regulatory policy, others carrier-initiated.[4] In its Notice of Inquiry in Docket No. 20003, the Commission stated it would look into the effect of current pricing practices and regulatory policies on the level and distribution of customer charges for various telecommunication services, and in particular on the extent to which various categories of customers are

[4] *Economic Implications Relating to Customer Interconnection, Jurisdictional Separations, and Rate Structures*, Docket No. 20003, 46 FCC 2d 214 (1974).

now or will be, under alternative pricing practices and regulatory policies, subsidizing the services received by others. Of particular concern in that proceeding are the comparative economic effects on both overall telecommunications costs and charges and on the costs and charges for different categories of both public and business customers, of such factors as the interconnection and use of customer-provided facilities, the use of specialized common carrier services in lieu of common carrier private line services, the use of flat-rate and other cost-insensitive pricing practices for local exchange services, and the jurisdictional separation of revenues and expenses for plant and facilities commonly used for both intrastate and interstate (including foreign) services.

Discussion

11. The issue now before the Commission in Docket 19528 has thus been clearly delineated as a consequence of prior Commission decisions extending back to *Hush-A-Phone*. The issue is not whether customers should be afforded the opportunity to interconnect their terminal equipment with the telephone network via direct electrical connections. That issue was decided by the Commission and the Courts in *Hush-A-Phone* and *Carterfone;* to the extent that parties may believe it necessary or desirable to revisit those decisions, that is a matter beyond the scope of this proceeding. Nor is the issue one of potential economic impact on the carriers. That issue was also addressed initially and disposed of in the *Carterfone* decision. To the extent that any specific cases of economic harm can be demonstrated, to such an extent as to affect the carriers' ability to continue providing essential public telecommunications services, parties have been and continue to be afforded the opportunity pursuant to *Carterfone* to make such a showing and to seek appropriate relief. To the extent that more general allegations and issues of potential future economic harm are concerned, such matters are being addressed in the Commission's concurrent and broad-ranging economic inquiry, Docket 20003. Thus, the single issue now before the Commission is whether, having adopted a terminal equipment registration program for the reasons cited in its November 7, 1975 First Report and Order, it is reasonable for any valid technical or legal basis, for the Commission to continue excluding PBX's, key telephone systems, and main station telephones from this registration program.

12. Certain parties (primarily the telephone companies) have argued—and the Joint Board has recommended—that main telephones, PBX and KT equipment should remain excluded from the scope of the F.C.C. registration program pending the outcome of the Commission's economic inquiry in Docket No. 20003. As noted above and in the First Report (see paragraphs 18 and 19, and footnote 10 thereto) such considerations do not fall within the scope of the Docket No. 19528 proceedings. From its inception, Docket No. 19528 has been concerned solely with the issue of technical harm. Economic issues, including questions concerning the continued validity of the *Carterfone* decision, are matters which may and are being addressed fully in other proceedings before the Commission without the necessity of delaying the 19528 proceeding. Pursuant to *Carterfone*, parties have been and continue to be afforded the opportunity to demonstrate specific instances

of economic harm as a basis for seeking relief from the full application of this policy. To date, only one party has sought a hearing on this basis, and that hearing was terminated prior to the introduction of evidence, at the petitioner's request.[5]

13. In Docket No. 20003, the Commission has also afforded parties the opportunity to present facts, studies, or opinions regarding both present and future economic effects resulting from a broad range of interrelated economic issues of general applicability (see paragraph 10, above), including, among other things, liberalized interconnection and competition in various sectors of the communications industry. Based on the information gained from this inquiry, we fully expect to institute further rulemaking or other proceedings as appropriate, dealing in a comprehensive and coordinated manner with both the carriers' alleged losses and the public benefits of competition. However, the Commission has made it abundantly clear from the first Notice of Inquiry in Docket No. 20003 that initiation of this proceeding would not necessarily preclude further action in Docket No. 19528. We do not intend, as some parties would have us do, to prejudge the outcome of the Docket No. 20003 inquiry in favor of *any* party. For the purpose of proceeding with Docket No. 19528 it is sufficient to note the absence to date of any showing before the FCC that any actual economic harm has been experienced much less that this has adversely affected any carrier's ability to serve the public. Comments received herein broadly allege some adverse economic impact without quantification.[6] Such allegations are not a demonstration of expected economic impact sufficient to require that the rights of connecting registered equipment under Part 68 to the telephone network be denied to all telephone subscribers, nationwide.

14. The Joint Board has also expressed concern that we not extend the registration program to PBX, KTS, and main telephones solely to promote competition for its own sake. This clearly is not, and has never been, the Commission's primary objective. The guiding principle in *Carterfone* and related decisions has been to afford the users of the nationwide telecommunications network greater flexibility and choice in their use of that network—through customer-provided terminal equipment—in ways which are privately beneficial without being publicly detrimental. By affording telephone customers more freedom of choice in the provision and interconnection of terminal equipment, the markets for such devices *have* expanded, and price competition and innovation on the part of both the telephone companies and independent equipment suppliers *has* resulted. This competition has increased the utility of the nationwide telephone network, a result which we consider both privately and publicly beneficial—but competition *per se* has not been the Commission's objective. Competition in the terminal market has existed since 1969 when telephone company tariffs filed in response to *Carterfone* permitted connection of customer-supplied

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[5] *Mebane Home Telephone Co.*, FCC 75M-1788 (released October 17, 1975).

[6] GTE cites its allegations in Docket No. 20003 as some indication of the present contribution of PBX and KT equipment to its revenues, without quantifying how much of such contribution is expected to be lost as a result of applying Part 68 to such equipment. GTE merely assumes, without explanation, that 50% of the replacement and growth market would be penetrated by competition. Such assumptions and allegations are being thoroughly scrutinized in Docket 20003; but they can hardly be considered sufficient to justify further delay in this long-pending proceeding.

equipment through telephone company connecting arrangements. These connecting arrangements (for which a monthly charge is assessed) were never alleged to be necessary as an anticompetitive deterrent to the purchase of non-carrier equipment. Nor were they alleged to be necessary as a surcharge needed to produce revenue "contribution" to the telephone companies. Rather they were alleged to be necessary solely to protect the nation's telephone network from any technical harms which non-carrier terminals might produce. The F.C.C.'s registration program does not extend the area of competition; it merely removes what has been found to be an unnecessary and discriminatory carrier-imposed restriction on the manner in which customer-provided equipment may be connected to the network.

15. Some parties (again, primarily the telephone companies) take the position that Part 68 should not be extended to encompass main telephones, PBX and KT equipment as such equipment has a high incidence on the telephone network, and that the present inadequacies of Part 68 would become more acute. This argument is incorrect. First, the Commission's registration program has been drawn to achieve the same result as the telephone companies' own protective devices have achieved since January, 1969. Second, if equipment is actually harmful, the telephone companies have the right to disconnect it from the network by discontinuing service (Section 68.108 of the Rules), and thus actually harmful equipment will not remain connected to the telephone network. Third, to the extent that the technical requirements of Part 68 are inadequate (and in our view this is not the case), interested parties can petition for changes in the Part 68 rules at any time. Alternatively stated, the proper remedy for an allegedly inadequate technical requirement is not to deny the rights of connecting registered equipment under Part 68 to all telephone subscribers indefinitely. Rules often change as requirements change; the purpose of allowing petitions for rulemaking is to accommodate such changed requirements. With regard to the Part 68 technical requirements, it should be noted that many of the changes which Bell has suggested in an amendment to its Petition for Reconsideration, filed January 22, 1976, recommend *less* stringent parameters than are presently contained in Part 68.

16. Another argument is that (in GTE's view) main telephones should not be included as it is important that there be at least one telephone company-provided instrument on the customer's premise to assure compatibility with the telephone network and fulfill the telephone company's "end-to-end" service responsibility. However, the telephone companies have provided connecting arrangements without an associated telephone instrument, and therefore must have themselves concluded that there is no such necessity.[7] Second, in the First Report and Order, compatibility was distinguished from network harm (e.g., *see* paragraph 22, and Section 68.110(a) of the Rules). Third, the telephone companies do not even now have "end-to-end" responsibility

[7] F.C.C. Tariffs No. 259 (WATS) and 263 (MTS) impose no requirement for a carrier-supplied telephone instrument in addition to a connecting arrangement for connection of customer-provided terminal equipment and/or systems. Also, the alleged requirement is plainly impractical in the case of PBX trunks (presently used with connecting arrangements) which are not even compatible with a telephone instrument.

where customer-provided equipment is used. They are only responsible for the service which they provide. When a customer chooses to use equipment not provided by the telephone company, the telephone company is only responsible for providing adequate communication line service. Obviously, the telephone company cannot be responsible for the performance of equipment which it does not provide, install and maintain.

17. The telephone companies, and their trade associations, also oppose inclusion of telephone company-provided main station telephones, PBX and KT equipment for the same reasons as were stated in Petitions for Reconsideration of the First Report and Order. Both the Joint Board, in its Recommended First Report and Order, and the Commission, in its First Report and Order and its Memorandum Opinion and Order on reconsideration thereof (FCC 76-134, released February 13, 1976), have ruled that telephone company equipment should be included in the scope of Part 68. No new arguments have been advanced in support of changing present provisions of Part 68 with regard to telephone company-provided equipment, as applied to main telephones, PBX and KT equipment.

18. Many parties have filed comments addressing the applicability of the technical requirements of the Commission's present registration program to main telephones, PBX and KT equipment. Such parties have pointed out that the specific technical requirements of Subpart D of Part 68 will have to be varied to accommodate certain differences between telephone lines and telephone trunks (trunks are used with PBX equipment). In addition, the comments argue that specific parametric values which are presently contained in Subpart D should be changed to accommodate this equipment. We are addressing these matters below.

19. The general technical standards of Part 68, as presently stated in Subpart D thereof, are applicable to main telephones, PBX and KT equipment. Each of hazardous voltages, longitudinal balance, signal power and leakage currents must remain within stipulated limits to prevent harm. In addition, "pre-trip" and "false trip" must be prevented, except as noted below, and proper operation of billing equipment must be assured. All of the above must occur within foreseeable environmental and electrical stresses to which equipment will be subjected during shipment, installation and use.

20. Improper network control signaling, as the Commission concluded in its First Report and Order, paragraph 22, does not generally require specific protection, except as it might relate to improper billing, since a failure of network control signaling will adversely affect the user's ability to generate telephone calls and receive telephone calls. The Commission chose, in the First Report and Order, to control one aspect of network control signaling—"pre-trip" and "false trip"—which is dependent upon limitations on on-hook impedance. This was done on the theory that an unknowing caller who attempted to place a telephone call to equipment which caused "pre-trip" or "false trip"

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[8] Customers who choose to use equipment not supplied by the telephone company assume the risk that this equipment will not perform adequately. Presumably, suppliers of inadequate equipment will not remain in the market for very long. The Rules in Part 68, however, assure that in failing to operate properly, even inadequate equipment ill not harm the telephone network.

would perceive the call as one which failed to go through, and would be expected to continue to attempt to place the call, or involve telephone company maintenance personnel. The rationale for controlling on-hook impedance is equally applicable to main telephones and key telephone systems, as "pre-trip" and "false trip" have been controlled in the past, where such customer-provided equipment, used for both residential and business applications, was connected through carrier-provided connecting arrangements.

21. However, PBXs are only used for business applications, and a failure having the effect of "pre-trip" or "false trip" would render the PBX unable to answer incoming telephone calls. Such a failure would go far beyond inconvenience to the user; it would adversely affect his business. Consequently, such business users would be strongly motivated to both acquire equipment which did not have this effect, and to have offending equipment immediately repaired or replaced. Moreover, since the release of our First Report and Order, we have received no comments which indicate that incompatible PBX on-hook impedance will even cause "pre-trip" or "false trip," and we therefore must conclude that these effects will not occur. Accordingly, we will not impose on-hook impedance limitations, in Section 68.312, on PBX equipment. We view this as a problem of compatibility of terminal equipment with telephone facilities, and again encourage the telephone companies to provide equipment manufacturers with design specifications to which equipment can be designed.[9]

22. The great majority of ancillary and data equipment which is presently within the scope of Part 68 is connected to loop-start telephone facilities, whereas PBX equipment, depending upon the central office facilities of the serving telephone company, may be configured either for loop-start or ground-start operation. A loop-start trunk or line uses network control signaling which is compatible with a telephone set, while a ground-start trunk uses the intentional connection with earth ground of one trunk wire at the central office to indicate the start and end of a call, and the indirect connection of one trunk wire with earth ground at the PBX to sense this central office-end connection with earth ground (through PBX circuitry) as well as the direct connection of one trunk wire with earth ground at the PBX to indicate the start of an outgoing call. All of these intentional connections with earth ground are timed so that balance is maintained on the trunk when voiceband energy is present on the trunk in order that crosstalk does not result when the connections with earth ground are present. As a consequence of Bell's January 22 and March 1 filings in this proceeding, and of the comments thereon, many Part 68 requirements have been modified to accommodate the intentional connections with earth ground that occur on ground-start facilities. Thus, most of the technical concerns which were expressed in the comments which

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[9] Section 68.110 imposes a requirement that telephone companies supply such information upon request for particular telephone facilities; general design specifications, in the nature of "Technical References" which have been supplied in the past, would effect compliance with this rule if sufficiently comprehensive. We would note that complex compatibility problems in connection of customer-provided PBXs have been handled in the past through "Technical Reference" specifications and not hardware protection, e.g., incoming call timing protocols, outgoing call timing protocols and disconnect sequences. *See* "Technical References": PUB 42401, March 1974, *Voice Connecting Arrangement CDH*, pp. 3-4, 8; PUB 42402, March 1974, *Voice Connecting Arrangements CD7, CD8 and CD9*, pp. 3-4, 8.

we received on including PBX equipment have already been alleviated.[10] In this order, therefore, we shall only deal with those problems which remain, in light of the changed requirements of Part 68 as presently written.

23. *Longitudinal Surges.* Section 68.302(e) requires conformance to the technical standards of Part 68 after the application of surges with respect to earth ground. Since equipment intended for use on ground-start facilities will normally have circuitry which is intentionally connected with earth ground, the effect of this requirement might be to destroy such circuitry during testing. As in the case of our other environmental conditioning requirements, our rules provide that if such is the case, the equipment is still required to conform to the limitations of Sections 68.304-68.314, although it may be inoperative.

24. *Longitudinal Balance Limitations.* Section 68.310(d) requires that registered one-port terminal equipment present 40 dB of balance in the 200-4000 Hertz band in the off-hook state, when used with ground-start facilities. This recognizes that in the on-hook, or quiescent state, there is an intentional connection with earth ground which would cause the balance parameter to fall below 40 dB. Section 68.310(e) establishes balance requirements for registered protective circuitry used with loop-start facilities, but there is presently no concomitant standard for registered protective circuitry used with ground-start facilities. Accordingly, we shall adopt a new Section 68.310(f) which follows the language of Section 68.310(e), but which imposes the limitation presently applicable to Section 68.310(d).

25. *On-hook Impedance Limitations.* In accordance with our discussion in paragraphs 21 and 22 above, the introduction to subsection (a) will be modified to state "Limitations on individual equipment intended for parallel operation on loop-start telephone facilities, other than PBX equipment."

26. *Means of Connection.* We have received comments which indicate that plugs and jacks may not be appropriate for connection of PBX and key telephone equipment to the telephone network in view of the multiplicity of connections which would be involved. As was the case in our First Report and Order, we view this as a problem which appropriately should be addressed, in the first instance, by the parties who will be performing installation of such equipment. Accordingly, we will institute cooperative meetings between carriers and equipment manufacturers and installers, by a Public Notice to be released in the future, which will address suitable means of connection of PBX and key telephone equipment to the telephone network. We reserve the right to prescribe the use of plugs and jacks, or other suitable means of connection, in the event that such cooperative meetings are not fruitful.

27. *PBX and KT Installation Problems.* Unlike ancillary and data equipment and telephone sets, which are generally connected only to the telephone network and to no other equipment, PBX and KT systems consist of common equipment which is directly connected to the

[10] Parties had indicated that the leakage current, longitudinal balance, on-hook impedance and hazardous voltage limitations would have to be changed to accommodate PBX trunks. In addition, concern was expressed that the signal power limitations, rigidly applied, would require additional components in telephone sets used with PBXs, unnecessarily.

telephone network, and remote terminal equipment (such as telephone sets) which is indirectly connected to the telephone network through the common equipment. If protective circuitry is employed at the point of connection with the telephone network, then no harm can result from improper installation of wiring between the common equipment and remote equipment. However, if protective circuitry is not connected between such intra-system wiring and the common equipment, and there is no protective circuitry at the point of connection to the telephone network, then the network is vulnerable to inadequate intra-system wiring, and improper installation of such wiring.

28. Wiring is passive. It cannot, of itself, generate any signals. It can, however, become connected with earth ground or power lines through inadequate insulation, or marginally adequate insulation and improper installation. We have received no adequate proposals for certifying the installation of wiring. Even if we were to make the leakage current requirements applicable to intra-system wiring (which would assure adequate insulation), there still would be no assurance of adequate separation from power lines at the time of installation of such adequately-insulated wiring. Thus, we are faced with a quandary; the common equipment may be perfectly acceptable without protective circuitry, and yet leave the telephone network vulnerable to the vagaries of installation of wiring connected with the common equipment.

29. We have not received adequate recommendations for appropriately addressing this problem in the scope of the F.C.C. registration program. Therefore, we are requiring that (1) PBX and KT equipment be connected to the telephone network through protective circuitry at the point of connection with the telephone network which assures compliance with the hazardous voltage, longitudinal balance and leakage current requirements regardless of the design and installation of the common equipment and intra-system wiring (in which case, no further information concerning the design of the common equipment need be furnished, except as noted below); or (2) that such protective circuitry be located within the common equipment such that it is electrically in the path of all wiring between the common equipment and remotely-located equipment (such as telephones),[11] or (3) PBX and KT equipment be connected to the telephone network through *fully* protective circuitry at the point of connection with the telephone network (in which case, there would be no limitation on the remote terminal equipment which might be connected through the intra-system wiring, except possibly for data equipment). In each of the first two alternatives (1) the common equipment may only be used with remotely located terminal equipment which itself is registered as conforming with the signal power requirements of Part 68, or which is connected to the remote end of the intra-system wiring through registered protective circuitry, and (2) information would have to be furnished concerning the loop current furnished remote equipment, to determine whether equipment registered as conforming to the signal power requirements when connected to a loop simulator circuit would similarly conform to these requirements as connected with the loop currents furnished by the common equipment. Since the Bell-initiated revised signal power

[11] Many PBX designs already incorporate such circuitry as is called for under options (1) and (2), e.g., "repeat coil" PBXs.

limitations do not control in-band power for live voice acousto-electrical transducers (such as telephone sets), this approach will require no additional power limiting components to be added to PBXs if used only with remotely located telephone instruments.[12]

Conclusions

30. After reviewing the various arguments cited herein, we are of the view that no valid legal or technical basis has been advanced which would support the continued exclusion of main telephones, PBX and KT equipment from the scope of Part 68 of the FCC Rules. Such equipment has been connected to the telephone network since *Carterfone*, through connecting arrangements (telephone company-provided protective circuits), and Part 68 of the FCC Rules provides substantially equivalent assurance of nonharmful connection without the telephone company-provided connecting arrangements. Additionally, all of the conclusions of paragraph 16 of the First Report and Order are applicable to main telephones, PBX and KT equipment, and therefore the present requirement of connecting such equipment solely through telephone company-provided connecting arrangements is unlawfully restrictive of the customer's right to use the telephone network in a manner which is privately beneficial without being publicly harmful. Moreover, the present requirement of connecting such equipment solely through telephone company-provided connecting arrangements is unlawfully discriminatory for the reasons stated in paragraph 16 of the First Report and Order.

31. In addition, a registration program applicable to some equipment types, but not applicable to other equipment types, would appear to raise serious questions of discrimination between those subscribers who wish to connect harmless equipment within the scope of the registration program, and those subscribers who would wish to connect harmless equipment not included within the scope of the program. The technical discrimination between equipment types is also serious. Anomalously, equipment which is presently within the scope of Part 68 (e.g., datasets, which are typically connected with commercial power sources) actually may present a higher potential for harm than does equipment which is presently excluded (e.g., main telephones, which are connected with no power sources other than the telephone network itself). Such discrimination can simply not be sustained on technical "harm" grounds. Further, this discrimination becomes totally unsustainable in the case of main telephones (presently excluded) which are the same instruments as extension telephones (presently included).

32. The Part 68 technical requirements are applicable to main telephones, without modification, and to key telephone and PBX equipment, as modified herein. Main telephones, key telephone and PBX equipment which is registered in accordance with Part 68, or which is connected to the telephone network through protective circuitry registered in accordance with Part 68 will be privately beneficial without being publicly harmful. The requirements of Part 68 as modified herein will provide the requisite assurance of non-harmful connection of such equipment.

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[12] We encourage submission of proposed rule changes which would assure proper installation of intra-system wiring and thereby preclude any unnecessary use of protective circuitry.

33. Main telephones, and PBX and key telephone equipment used in conjunction with the appropriate F.C.C. registered protective circuitry, and F.C.C. registered main telephones, and PBX and key telephone equipment may, following the effective date of this Order, be connected directly with the telephone network pursuant to the procedures set forth in the Part 68 rules, without benefit of carrier-supplied connecting arrangements. Carriers may continue to provide such connecting arrangements, if registered, and may require their use for equipment not registered with the F.C.C. or not used in conjunction with appropriate F.C.C. registered protective circuitry. Except as herein provided, carriers may not require the use of such connecting arrangements or other interface devices or arrangements for F.C.C. registered equipment or protective circuitry, and may not impose other tariff conditions contrary to the *Carterfone* policy without prior approval of the Commission.

Order

34. IT IS ORDERED, pursuant to Sections 4(i), 4(j), 201-205, 208, 215, 218, 313, 403, 404, 410 and 602 of the Communications Act, That Part 68 of the Commission's Rules and Regulations is amended as shown in the appendix hereto, effective May 1, 1976.

35. IT IS FURTHER ORDERED, That this proceeding is TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS, *Secretary.*

APPENDIX

The Commission's Rules and Regulations (Chapter I of Title 47 of the Code of Federal Regulations) are amended as follows:

Section 68.2 is amended as follows:

Section 68.2 *Scope*

(a) Except as provided for in paragraphs (b) and (c), the rules and regulations in this Part apply to the direct connection after May 1, 1976 of all terminal equipment other than coin telephones, and PBX and key telephone equipment to the telephone network, for use in conjunction with all services other than party line service, and to the direct connection after August 1, 1976 of all terminal equipment other than coin telephones to the telephone network, for use in conjunction with all services other than party line service.

(b) Unless otherwise ordered by the Commission, all items of equipment, other than PBX and key telephone equipment, of a type directly connected to the network as of May 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

(c) Unless otherwise ordered by the Commission, all PBX and key telephone equipment of a type directly connected to the network as of August 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

Section 68.310 is amended as follows:

Section 68.310 *Longitudinal Balance Limitations*

(a) *Technical Description and Application.* The metallic-to-longitudinal balance coefficient, $BALANCE_{m-l}$ is expressed as:

$$BALANCE_{m-l} = 20 \log_{10} \left| \frac{e_M}{e_L} \right|$$

where e_L is the longitudinal voltage produced across a 500-ohm longitudinal termination and e_M is the metallic voltage across the tip-ring interface of the input port when a voltage (at any frequency $200 < f < 4000$ Hertz) is applied from a balanced 600-ohm

metallic source. The source voltage should be set such that e_M = 0.775 volts rms (0 dBm) when a 600-ohm termination is substituted for the terminal equipment. The minimum balance coefficient shall be equalled or exceeded at all values of dc loop current that the port under test of the registered equipment is capable of drawing when attached to the loop simulator circuit specified in these Rules. A test circuit that satisfies the above conditions and may be used for measuring the metallic-to-longitudinal balance coefficient is shown in Figure 68.310(a). The minimum balance requirements specified below shall be equalled or exceeded under all reasonable conditions of the application of earth ground to the registered equipment:

Sub-paragraph	Equipment state	Minimum balance requirement	Frequency range (Hertz)
(b)	Both on-hook and off-hook.	60 dB 40 dB	200 to 1000 1000 to 4000
(c)	on-hook	60 dB 40 dB	200 to 1000 1000 to 4000
	off-hook	40 dB	200 to 4000
(d)	off-hook	40 dB	200 to 4000
(e) voice equipment	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(e) data equipment	on-hook	60 dB 40 dB	200 to 1000 1000 to 4000
	off-hook	40 dB	200 to 4000
(f)	off-hook	40 dB	200 to 4000
(g)	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(h)	off-hook	40 dB	200 to 4000

* * * * * * *

(f) *Registered Protective Circuitry for Ground-Start Applications.* These criteria shall be met with either terminal of the interface to other equipment connected to earth ground. The interface to other equipment shall be terminated in an impedance which will be reflected to the telephone connection as 600-ohms in the off-hook state of the registered protective circuit. Figure 68.310(e) shows the interface of the protective circuitry being tested and the required arrangement at the interface to other equipment.

* * * * * * *

Section 68.312(a) is amended as follows:

Section 68.312 *On-hook Impedance Limitations*

(a) Limitations on individual equipment intended for parallel operation on loop-start telephone facilities, other than PBX equipment:

DISSENTING STATEMENT OF COMMISSIONER BENJAMIN L. HOOKS

In Re: Docket No. 19528 (PBX Interconnection)

We should not be extending the registration requirement to PBX equipment without first having examined the social and economic im-

pact of this decision. I expressed similar views in *Mebane Home Telephone Company*, 53 FCC 2d 473, 484 (1975) (dissenting opinion), and in my separate statement concurring in the *First Report and Order* in this Docket, 56 FCC 2d 593, 622 (1975). I see a clear difference between PBX and "data and ancillary devices," as the latter term was used in the *First Report and Order*. Answering systems, computers and their associated terminal equipment are not the traditional service offerings of telephone companies, although admittedly they may be closely related, functionally and in design, to more familiar apparatus. "Data and ancillary devices" are new conceptions, which generally do not offer—except, perhaps, for extension telephones—direct competition with the long-standing service offerings of telephone companies. Given a policy judgment that free competition in data and ancillary services will promote the public interest, the registration requirement established in the *First Report and Order* provides one method of safeguarding the switched network from technical harm, although more effective methods may certainly exist.

But how does one distinguish between newfangled terminal equipment and, for example, an extension telephone or any other traditional telephone equipment? The short answer is that one cannot distinguish on technical basis alone. Despite an apparent intuitive distinction between old-fashioned devices like extension telephones and modern-day exotica like an IBM 370/168, there are, technically, very few apparent grounds for making any distinction. Accordingly, in the *First Report and Order*, we applied the registration requirement to all equipment connected to subscriber loops, including extension telephones. I was dubious about taking this decision until our studies on the economic impact of interconnection were completed;[1] but I also recognized that the boundary between extension telephones, on the one hand, and innovative terminal equipment on the other was difficult and should be addressed more fully in another context. In light of this practical difficulty, I concurred in the *First Report and Order*.

But today we take a further step, in which the practical distinctions that dogged the *First Report and Order* do not appear. Most PBX equipment is not connected to ordinary customer loops. It is connected directly to carrier trunks. Hence, it can be distinguished, at least technically, from both extension telephones and data and/or ancillary terminal gear. While the *First Report and Order* could be justified as further opening the door to growth in new and innovative communications services by creating comprehensive rules for terminal interconnection, today's decision cannot be explained on that ground. Although it may lead to rearrangements of existing network facilities, and correlatively of existing rate structures, the application of the registration

[1] In my dissent in *Mebane, supra*, I cited some of the initial comments in Docket No. 20003. More comments having been filed, it becomes obvious that reconciliation of the various self-interested studies, the methodologies and conclusions therein, will be impossible; so acute are the divergencies. Even the Commission, which is all but irreversibly down the road with its policies (this instant action being merely the latest manifestation) cannot be said to be wholly neutral on the outcome of Docket 20003. Accordingly, because the social and economic issues loom so large with respect to our communications system, I doubt that I or the public can be satisfied with anything but an independent analysis of the issues by a disinterested, qualified observer, *e.g.*, a "think tank" which is not financially or ideologically tethered to the views of the participating parties. It is not a question of not trusting the analysis of the present protagonists, private or governmental. But, where I come from we have an expression: "Trust your sister—but cut the cards."

requirement to PBX seems less likely to produce new innovation and growth in the short run, and probably would have an immediate detrimental impact on the cost and availability of telephone service to the public. At least from our present situation of limited and incomplete information on the general economic effects of our interconnect policies on the efficiencies of operating a telephone company, the risk of such detrimental impact is unacceptably great in the context of the present case, considering the relative costs and benefits.

I must emphasize that the Commission, if it followed my counsel of caution on this matter, would in no way be acting to the prejudice of any future action it might wish to take. I do not suggest that it would never be appropriate to do what the majority does today; I only say that it would make more sense to keep our options open.

One further point requires mentioning. In my separate statement concurring in the *First Report and Order*, I said that I doubted the efficiency and good sense of applying the registration program to carrier-supplied equipment. Carriers have no reason to design equipment which will snarl the switched network, and every reason not to. My views on this matter have not changed; this application of the registration program still does not make sense.

For the foregoing reasons, therefore, I respectfully dissent.

APPENDIX H

In re Primary Instrument Concept, 68 F.C.C. 2d 1157 (1978)
(Appendix, 68 F.C.C. 2d 1178-91, omitted)

Anti-Trust
Common Carrier, Interconnection, Customer-Provided Equipment
Common Carrier, Service, Discrimination In
Telephone Company, Customer-Provided Equipment

Proposed Primary Instrument Concept (PIC) which would require subscribers to a single tel. line to lease one instrument from the tel. co. rejected. Rulemaking not instituted. PIC violates Sec. 201(b) and 202(a). It unreasonably discriminates among users and is contrary to the Registration Program. Proposal violates precedent, is not justified, and raises antitrust issues. (CC 78-36)

F.C.C. 78-510

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of	
Implications of the Telephone Industry's Primary Instrument Concept	CC Docket No. 78-36

REPORT AND ORDER

(Adopted: July 13, 1978; Released: August 2, 1978)

BY THE COMMISSION:

1. By Notice of Inquiry released on February 6, 1978 (FCC 78-67; 43 F.R. 6151) the Commission instituted this proceeding to explore the telephone industry's Primary Instrument Concept (PIC) which proposes that each single line subscriber to basic telephone service should be required to lease one telephone set from the telephone company. Comments and reply comments have been received from the telephone industry and various other interested persons. The formal comments are summarized in the appendix hereto, and the principal contentions of the parties are treated in the discussion below. We have also received and considered a number of informal comments by interested persons, and these submissions have been associated with the record.

2. The telephone industry [1] and National Telephone Cooperative Association (NTCA) have requested that we hear oral argument in this matter. American Satellite Corporation has filed in opposition, and the Computer and Business Equipment Manufacturers Association (CBEMA) has indicated its view that the need for oral argument is less strong than in other complex proceedings. Upon consideration of these requests and the record as a whole, we have decided not to entertain oral argument. The comments and reply comments of the telephone industry and NTCA seem to fully set forth their positions in support of PIC and the asserted social objectives. Contrary to the

[1] Filing jointly are: the Organization for the Protection and Advancement of Small Telephone Companies, the United States Independent Telephone Association, American Telephone and Telegraph Company, Central Telephone & Utilities Corporation, Continental Telephone Corporation, GTE Service Corporation and United Telecommunications, Inc.

suggestion of the industry, we have experienced no difficulty in understanding the extensive discussion of the issues contained in the record, and we consider that record to be adequate for decision. It does not appear to us that oral argument would be sufficiently useful to warrant the delay necessarily entailed in this extra, discretionary procedure. Considering the unsettling effect of the pending unresolved proposal on the telephone and equipment supply industries and their customers, we conclude that an expeditious resolution of this matter is in the public interest.

3. The National Association of Regulatory Utility Commissioners (NARUC), with the support of various state commissions, has requested that we convene a Federal-State Joint Board to prepare a recommended decision in this proceeding. While recognizing the interest and concern of NARUC and state regulatory agencies regarding the PIC proposal, we feel that the issues addressed in the comments and the questions before us for decision are such that a Joint Board is not necessary and would not be particularly helpful. We note that this is an Inquiry, rather than a rulemaking proceeding like Docket No. 19528. Moreover, the central issue goes to whether PIC is consistent with established federal policies, a question that lies peculiarly within the competence of this Commission. Thus, we decline to convene a Federal-State Joint Board.

Summary

4. Upon careful consideration of the telephone industry showing in light of the entire record, we have concluded that PIC is fundamentally inconsistent with the principles of *Hush-a-Phone*, *Carterfone*, *Mebane* and the Registration Program.[2] The principal arguments advanced by the industry in support of PIC have already been considered and rejected in those decisions. Notwithstanding the industry's failure to demonstrate any significant changed circumstances, we have taken another look at the merits of its position. We again reject the industry's premise that a carrier instrument is an integral part of complete telephone service. We find no showing of public detriment such as might warrant a restriction on the single line subscriber's right to furnish his own primary instrument within the *Carterfone* principle. The telephone industry has not established the validity of its principal contentions that single line subscribers would not adequately maintain their equipment, with resulting public harm, and that PIC is necessary for testing to effectuate telephone company responsibilities. The industry has not claimed any technical or economic harm, and its other asserted grounds either will not withstand analysis or are contrary to our previous findings. Being further of the view that PIC would be unlawful under Sections 201(b) and 202(a) of the Communications Act if initiated by a telephone carrier, we decline to institute rulemaking looking toward adoption of any such requirement.

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[2] *Hush-a-Phone Corp.* v. *U.S.*, 238 F.2d 266 (D.C. Cir. 1956); *Carterfone*, 13 FCC 2d 420, on reconsideration 14 FCC 2d 571 (1968); *AT&T on behalf of Mebane Home Telephone Company*, 53 FCC 2d 473 (1975), aff'd *Mebane Home Telephone Co.* v. *F.C.C.*, 545 F.2d 1324 (D.C. Cir. 1976); *First Report and Order in Docket No. 19528*, 56 FCC 2d 593 (1975), on reconsideration 57 FCC 2d 1216 (1976), 58 FCC 716 (1976) and 59 FCC 2d 83 (1976); *Second Report and Order in Docket No. 19528*, 58 FCC 2d 736 (1976), on reconsideration 61 FCC 2d 396 (1976) and 64 FCC 2d 1058 (1977), aff'd *sub nom. North Carolina Utilities Commission* v. *F.C.C.*, 552 F.2d 1036 (4th Cir. 1977), *cert. den.* —— U.S. ——, 46 LW 3219.

The Industry's PIC Proposal

5. As refined by its comments in this proceeding, the telephone industry is proposing that residential and business subscribers to single line telephone service be required to lease, as part of basic telephone service, one piece of customer-premises terminal equipment from the serving telephone company. This so-called "primary instrument" could be either a standard telephone or optional equipment of the serving carrier which has minimum capabilities equivalent to a standard instrument. The PIC requirement would not apply to private line, multiline, or data services. The industry defines "multi-line service" as multiple lines or trunks entering a single piece of common equipment which is so arranged that the selection of alternate paths to these lines is possible from connected terminal devices. According to the industry, "data service" is the connection of any registered device to the network that functions as a data modem, either via data jacks or standard voice jacks or by data access arrangements.

6. The charges for a standard instrument and its maintenance would be included in the charge for basic exchange telephone service. There would be additional charges for optional carrier equipment, with no refund or credit for not taking the standard instrument. The subscriber would be permitted to disconnect the carrier instrument and substitute his own equipment at all times except during telephone company testing. Though the customer need use the carrier's instrument only for testing, the full monthly lease charge for such primary instrument would remain applicable. Apart from the requirement that the subscriber lease and have available on his premises a carrier instrument for testing, the subscriber could obtain other terminal equipment from any source and use it any time except during testing.

7. The telephone industry bases its PIC proposal exclusively on the asserted social benefits to be realized by telephone subscribers. Thus, the industry expressly disclaims any reliance on economic or technical harm to the telephone network or the public, and has accordingly declined to submit any economic data in justification of PIC. The principal social benefits claimed are that PIC would allegedly provide a reasonable balance between maintenance of a regulated, quality telephone service and maximum customer choice in the selection of terminal equipment. More particularly, the industry states that PIC would facilitate carrier testing, serve as a reference set for the subscriber, encourage maintenance of terminal equipment, aid in prompt restoral of service, permit orderly introduction of technological innovations in the network, and facilitate transition under the Commission's Registration Program.

8. Another basic tenet of the industry position is its assumption that a standard telephone set supplied by the carrier is an essential, nonseverable element of complete telephone service. Because the service and the telephone are regarded as one, and since subscribers can otherwise use their own equipment except during testing, the industry considers PIC to be consistent with *Carterfone*. The complete service premise likewise forms one basis for the industry contention that PIC involves no unreasonable tying contrary to antitrust principles, there being no tying and tied products—only one complete service. Since the primary instrument is deemed to be an integral part of basic service,

the industry claims that PIC will not result in carrier domination of the terminal equipment market. Similarly, as one complete service is involved, the industry believes that the charge for the telephone set and its maintenance should be included in the monthly charge for exchange service. It opposes unbundling into separate charges for the service, terminal and maintenance components or affording subscribers the option of purchasing carrier sets. Indeed, under PIC, telephone sets purchased from a telephone company would not qualify as the primary instrument provided by the serving carrier.

DISCUSSION

Background

9. The industry's PIC proposal must be considered in the perspective of antecedent interconnection decisions over the last several years. While we have repeatedly described this background in other contexts and in the Notice of Inquiry in this proceeding, we think it worthwhile to review briefly the landmark decisions once again.

10. For many years prior to 1968 the tariffs of the telephone companies prohibited the connection of customer terminal equipment to the telephone network. The first real break with this carrier imposed bar came in 1968 in the Commission's *Carterfone* decision which was premised on the broad principle laid down in *Hush-a-Phone* as to the "telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental." *Carterfone* held that the prohibition against interconnection in the telephone company tariffs was unlawful under Sections 201(b) and 202(a) of the Communications Act because it indiscriminately barred the use of harmless as well as any harmful devices. Subsequently, in *Mebane* the Commission held that the broad principle of *Hush-a-Phone* and *Carterfone* extends to customer terminal equipment which may replace telephone system equipment.

11. Thus, since 1969 telephone subscribers have had the right to provide their own terminal equipment, including main station telephones. However, the post-*Carterfone* tariffs of the telephone companies initially permitted interconnection of such equipment to the network only through telephone company "connecting arrangements," allegedly required to protect the network from technical harm.[3] The comments of the telephone industry note that very few subscribers exercised the option to provide their own telephone sets under the post-*Carterfone* tariffs, in part due to the cost of the required connecting arrangement. Following lengthy rulemaking proceedings in Docket No. 19528, conducted with the assistance of a Federal-State Joint Board, the Commission concluded in 1975 that adequate network protection could be provided by means other than the required use of carrier-provided connecting arrangements. The same order established standards for protective circuitry for all terminal equipment and an FCC Registration Program to ensure compliance with such standards.[4]

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[3] See *AT&T Foreign Attachment Tariff Revisions*, 15 FCC 2d 605 (1968), on reconsideration 18 FCC 2d 871 (1969).

[4] *First Report and Order in Docket No. 19528*, 56 FCC 2d 593 (1975), on reconsideration 57 FCC 2d 1216 (1976), 58 FCC 716 (1976) and 59 FCC 2d 83 (1976).

Initially, this Registration Program was limited to data and ancillary devices, thus continuing the requirement for carrier connecting arrangements for customer-provided main stations and certain other equipment. After further proceedings the Commission in 1976 expanded the scope of the Registration Program to include main stations and other equipment items as well.[5] In the course of the latter decision the Commission considered and rejected a proposal by GTE Service Corporation that main stations should not be included in the registration program as "it is important that there be at least one telephone company-provided instrument on the customer's premise to assure compatibility with the telephone network and fulfill the telephone company's 'end-to-end' service responsibility" (*Second Report in Docket No. 19528*, 58 FCC 2d 736, 741). In rejecting the proposed requirement for a carrier-provided main station, the Commission stated (58 FCC 2d at 741-742):

> However, the telephone companies have provided connecting arrangements without an associated telephone instrument, and therefore must have themselves concluded that there is no such necessity. [Footnote omitted.] Second, in the First Report and Order, compatibility was distinguished from network harm (e.g., see paragraph 22, and Section 68.110(a) of the Rules). Third, the telephone companies do not even now have "end-to-end" responsibility where customer-provided equipment is used. They are only responsible for the service which they provide. When a customer chooses to use equipment not provided by the telephone company, the telephone company is only responsible for providing adequate communication line service. Obviously, the telephone company cannot be responsible for the performance of equipment which it does not provide, install and maintain.[6]

[6] Customers who choose to use equipment not supplied by the telephone company assume the risk that this equipment will not perform adequately. Presumably, suppliers of inadequate equipment will not remain in the market for very long. The Rules in Part 68, however, assure that in failing to operate properly, even inadequate equipment will not harm the telephone network.

12. The Commission's decisions in Docket No. 19528 were appealed to the United States Court of Appeals for the Fourth Circuit. Although the appellants included AT&T, the United States Independent Telephone Association, and other large independent telephone companies, GTE did not seek judicial review of the adverse ruling on its main station proposal. Pending judicial review, the effectiveness of portions of the Commission's orders, including the registration of main stations, was stayed by the Court. Following judicial affirmance of the Commission's actions, appellants sought Supreme Court review. On October 3, 1977 the Supreme Court denied certiorari,[7] and the FCC Registration Program for main stations and other equipment became effective shortly thereafter by operation of law with the issuance of the judicial mandate.

13. On October 3, 1977, on the same day that the Supreme Court denied certiorari, Congressmen Lionel Van Deerlin and Louis Frey, respectively the Chairman and ranking minority member of the House Subcommittee on Communications, forwarded for our attention the industry's PIC proposal to exempt primary instruments from the Reg-

[5] *Second Report and Order in Docket No. 19528*, 58 FCC 2d 736 (1976), on reconsideration 61 FCC 2d 396 and 64 FCC 2d 1058 (1977), *aff'd sub nom. North Carolina Utilities Commission v. F.C.C.*, 552 F.2d 1036 (4th Cir. 1977), cert. den., —— U.S. ——, 46 LW 3219.

[7] 46 LW 3219.

istration Program—a proposal akin to that just finally rejected in Docket No. 19528. Several parties to this proceeding argue that PIC and its supporting rationale have already been rejected in *Carterfone* and Docket No. 19528, and should not be belatedly reconsidered now. Indeed, CBEMA goes so far as to urge that *Carterfone* is *res adjudicata* and AT&T, as a party defendant, should be bound by the result.

14. Despite the timing of PIC, so close on the heels of a long controversy we thought was finally laid to rest, we decline to exercise our discretion to refuse to re-examine the matter at this juncture. *Hush-a-Phone*, *Carterfone* and Docket No. 19528 were only partly adjudicative of past disputes among the parties. More broadly, they involved important questions of public policy and interpretations of law with potentially far flung consequences for the general public, special user groups, and the interconnect and telephone industries. Questions of broad public policy are always subject to re-examination with evolving circumstances to assure that the interest of the public continues to be well served or that some important material factor has not been overlooked. Accordingly, we will take a fresh look at PIC to determine whether any new factors have been presented which may warrant a different public interest determination now. At the same time, with full appreciation of the sound reasons underlying the doctrine of finality, we will accord little, if any, weight to arguments identical to those we have previously rejected where there is no showing of changed circumstances or overlooked factors.

Consistency With Carterfone Principles

15. We discuss first the industry's argument that PIC is consistent with *Carterfone*. This argument rests on the twofold contention that (1) the telephone set is part of the telephone network as an inextricable element of complete telephone service; and (2) the customer rights upheld in the *Carterfone* line of cases concerned any additional equipment augmenting that network, a freedom not restricted by PIC.

16. *Hush-a-Phone* and *Carterfone* confirmed the existence of broad consumer rights under Sections 201(b) and 202(a) of the Communications Act. Rather than carving out any carrier "rights," these cases and the statute establish corresponding carrier *responsibilities*, by making unlawful any unjust or unreasonable interference with these consumer rights by the carrier. Every telephone customer has a protected right "reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental" (*Hush-a-Phone Corp.* v. *U.S.*, 238 F.2d 266). See also *Carterfone*, 13 FCC 2d 420, 423. Among the ways a customer can reasonably use telephone service is by supplying his own terminal equipment, including telephones, PBXs and key systems, provided only that he does not harm the telephone network or cause other public detriment. We expressly rejected in *Mebane* the argument that the customer's right to interconnect can be curtailed where the device he seeks to interconnect can be regarded as a substitution for telephone system equipment, stating (53 FCC 2d at 477–478):

> • • • we believe that here as in *Carterfone* it would be unjust, unreasonable and unlawful under Section 201(b) of the Act to restrict the customer's right to use beneficial interconnection devices that are not publicly detrimental, through a blanket prohibition against interconnection of devices that may involve some substitution of telephone company equipment. The determining factor should be whether there is harm to the telephone network, irrespective of whether the particular

interconnection device is one of the nature involved in *Carterfone* or a PBX or key system. To make a distinction based solely on whether there is a substitution of telephone company equipment, would be an arbitrary and unreasonable infringement of the subscriber's right in the absence of technical harm or other public detriment. A subscriber has a statutory right under Section 201(b) not to be subjected to tariff restrictions which indiscriminately bar interconnection of customer-provided equipment without regard to harm.

The judicially affirmed rationale in *Mebane*, while there specifically applied to PBXs and key systems, is equally applicable to telephone sets used as "main stations."

17. Nor do we see any other legal or rational basis for distinguishing the telephone set from all other terminal equipment and requiring that the customer obtain it from the telephone company. That the carriers have traditionally furnished the telephones with the service does not establish that they are required to do so, or warrant any inferences about the public interest.[7] While the definitions contained in Sections 3(a), (b) or (r) of the Communications Act are sufficiently broad to permit the inclusion of terminal equipment in interstate communication by wire or radio and in telephone exchange service, these definitions do not require that the provision of terminals be a common carrier service and they do not contain any distinction between telephone sets and other terminal equipment or between main stations and extension telephones. Nor does the Act contain any requirement that the carrier furnish a terminal of any kind as part of any communications service. Indeed, the carrier's duty under Section 201(a) is to furnish service "upon reasonable request"; nowhere in the Act does the carrier have any right to furnish service or equipment that the customer does not request or want. The Act is sufficiently broad to allow the Commission to permit a carrier to furnish a telephone set in conjunction with communications service where requested by the customer, subject to the statutory and regulatory requirements governing the furnishing of communications common carrier services. But to read into the Act any requirement for carrier terminal offerings as part of complete service is not justified by the statutory language, and would fly in the face of the *Carterfone* principle.

18. Further, we have not been shown any compelling practical reason why telephone service must be linked with a carrier supplied telephone set. There are significant distinctions between the basic utility service and the supply of terminal equipment. We are aware of no instance in recent history where any entity has sought to duplicate the local exchange lines and central office equipment of the telephone company. In contrast, there have been multiple suppliers of user terminal equipment, including telephone sets, since *Carterfone*. Indeed, the telephone industry concedes that the supply of terminal equipment is not a natural monopoly. Obviously, telephone service cannot be utilized, and in that sense is incomplete, without some kind of terminal equipment. It does not follow, however, that the service must be completed by a carrier-provided set rather than one obtained from an independent supplier. Other basic utility services, such as electricity and gas, are similarly incomplete until connected to some device such as a light bulb or gas furnace which is necessary to make the service

[7] See *MCI Telecommunications Corp.* v. *F.C.C.*, 561 F.2d 365 (D.C. Cir., 1977), *cert. den.*, —— U.S. ——, 46 LW 3453 (1977).

useful. However, the customer need not purchase the light bulb or the furnace from the utility unless he chooses to do so.* The severability of telephone service from the telephone terminal is further reflected in the telephone industry's statement that there is no technical or economic distinction between a main station, sought to be carrier-supplied, and an extension telephone, which could be independently supplied under PIC. Either will suffice to make the customer's service complete. The industry comments make no claim that a carrier telephone set is necessarily superior to a customer set provided that the latter is properly maintained. If the telephone companies should cease supplying terminals altogether, the public could still receive complete telephone service through the use of terminals obtained from independent sources.

19. The contention that one telephone set is an integral part of basic service is essentially, in our view, merely another form of the oft-rejected argument that the telephone company must have complete end-to-end service responsibility. We expressly rejected this end-to-end responsibility argument in *Carterfone* (13 FCC 2d at 424) and again in the *Second Report in Docket No. 19528* (58 FCC 2d at 739-740). Indeed, if customers have the right to supply any and all of their own terminal equipment, as they have been permitted to do since the post-*Carterfone* tariffs in 1969, this necessarily means that the telephone company cannot have complete end-to-end service responsibility including terminals. Customer terminals lie outside of the carrier's areas of responsibility and are not an integral part of the carrier's service. PIC recognizes that a carrier terminal is not an integral part of service to multi-line, data, and private line subscribers and, for reasons discussed later, we find unconvincing the attempt to differentiate single line subscribers. We note also that the telephone companies do not have end-to-end responsibility in other instances apart from data and multi-line subscribers. Thus, as CBEMA points out, independent telephone companies, particularly those lacking a terminal manufacturing affiliate, presently may procure telephones from a variety of non-telephone company sources. Subscribers to basic telephone service may interconnect with private line facilities of independent carriers or private systems utilizing terminals and other equipment which is not the responsibility of the telephone company. In all international telephone calls the United States carriers are responsible for only half of the circuit and the remainder is provided by foreign entities over facilities and terminals outside the control and the responsibility of the United States telephone carriers, who also have no control over maintenance of such equipment. In short, the United States telephone carriers have long been accustomed to providing service for which they are only partially responsible. No justification or necessity has been shown for initiating an end-to-end responsibility only for domestic single line telephone service. Indeed, we note that the industry in its reply comments no longer bases PIC on any claim of end-to-end service responsibility. While this concession appears eminently reasonable

*Contrary to the suggestion of the telephone industry, we see no significant difference in this respect because gas and electricity are one-way utility services, whereas telephone service involves two-way communications.

in the circumstances, we think that the essentially equivalent argument that the carrier telephone terminal is an indispensable part of the carrier's complete telephone service must also fail.

20. Accordingly, we conclude that a telephone set supplied by the carrier is not an integral part of basic telephone service, and that PIC is not consistent with *Carterfone* by reason of any theory of complete service. The customer's right to provide his own terminal equipment, in the absence of a persuasive showing of overriding public detriment, prevails for telephone sets just as for any other kind of terminal equipment. In this connection we find entirely lacking in merit the industry's related suggestion that PIC is consistent with *Carterfone* because the subscriber could provide any other terminal equipment he chooses so long as he leases one carrier telephone set for testing. If that one required carrier telephone set is an infringement of *Carterfone* rights, it matters not that the customer's rights are not otherwise curtailed. Thus, the crux of the telephone industry's position, in our view, is the sufficiency of its attempted showing that PIC is necessary to avoid public detriment. Only on the basis of an adequate showing of this nature could PIC be regarded as consistent with *Carterfone*.

21. The telephone industry does not rest PIC on the kind of alleged public detriment which was considered in *Carterfone*, Docket No. 19528 and Docket No. 20003[9]—the alleged necessity of protecting the telephone network from technical harm or of avoiding higher rates for residential telephone service. The industry states that it is not attempting to justify PIC on technical or economic grounds and therefore has not answered the economic questions in the *Notice*. Since there is no other substantial showing of potential technical or economic harm in the record, our consideration of PIC will assume that no technical or economic harm would flow to the telephone network or the public from customer ownership of primary instruments. While customer equipment proceedings have historically involved assertions of technical or economic harm, the "public detriment" test of *Hush-a-Phone* and *Carterfone* and *Mebane* is broader than these specific types of alleged detriment. "Public detriment" encompases also any other kind of potential harm to the public which is sufficiently imminent and grave as to unavoidably require a curtailment of individual choice in order to protect the public at large. The telephone industry's showing of public harm must stand alone, as it is proper to bear in mind that customer owned telephone sets are not alleged to cause any technical or economic harm to the public.

22. The industry's assertion of public harm relies solely on the social benefits it claims would result from PIC. As the industry expresses it (Joint Comments, p. 3):

> The principal benefit is that PIC will provide a reasonable balance between maximum customer choice in the selection of terminal equipment and the maintenance of quality basic telephone service for single-line subscribers. PIC accomplishes this balance by providing a reasonable and logical distinction between regulated service responsibilities of the telephone companies and the competitive provision of terminal equipment.

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[9] In *Carterfone* we considered claims of technical and economic harm to the network. Docket No. 19528 was concerned exclusively with technical harm, and Docket No. 20003 dealt with economic harm. *First Report and Order in Docket No. 20003*, 61 FCC 2d 766 (1976).

The industry also phrases its position thus: (Joint Comments, p. 5):

> PIC provides a reasonable, recognizable, and easily understood method of separating public service responsibilities and accountabilities from those of competitive equipment supply, with a minimum of subscriber uncertainty and misunderstanding.

23. Leaving aside questions in the record as to whether there has actually been much regulation of carrier terminal equipment and maintenance,[10] we are not persuaded that PIC constitutes the only reasonable way to draw a line between regulated carrier responsibilities and competitive equipment supply. With no requirement for a carrier-provided primary instrument there is still a reasonable, easily recognized distinction between services and equipment furnished by the carrier, for which it is accountable to the customer and regulatory authorities, and any equipment provided by the customer for which the carrier has no responsibility. As we stated in the *Second Report in Docket No. 19528*, 58 FCC 2d at 741-742, carriers are only responsible for the service which they provide. When a customer uses his own equipment, the telephone company is "only responsible for providing adequate communication line service" and obviously "cannot be responsible for the performance of equipment which it does not provide, install and maintain." (*Id.*) Assuming the desirability of a clear line between the regulated and non-regulated activity, as well as between the carrier's responsibilities and those of the customer or independent equipment supplier, we think that an acceptable, logical line presently exists and that PIC is not necessary for this purpose.

24. In asserting the other principal social benefit, "maintenance of quality basic telephone service" or "continuity of service," the telephone industry points out that the ability to communicate with others depends on a properly functioning telephone—both yours and the other person's. As nearly as we can ascertain from the industry's comments, the only concrete substance to these generalities is the contention that PIC is necessary to encourage prompt repair and maintenance of telephone sets and to facilitate telephone company testing. As suggested by CBEMA, IBM, and Computer and Communications Industry Association (CCIA), this appears to be the heart of the telephone industry claim of public detriment. We will therefore examine the maintenance and testing showings particularly carefully to determine whether they make it necessary to restrict the customer's rights in order to protect the public at large from substantial harm.

25. As already noted, the telephone industry does not contend that the terminal equipment of independent suppliers is inferior to telephone company equipment if properly maintained. Rather the thrust of the industry position is that even if carrier and customer equipment is identical at the outset, single line residential and business subscribers would be less likely to maintain customer equipment to the degree allegedly essential for high quality telephone service and effective telephone company testing. Admitting that it cannot make any reliable

[10] CBEMA asserts that the concept of telephone companies being fully accountable to state and federal regulation is without significance for terminals. It claims that the FCC Registration Program constitutes the first attempt at regulation, and that there has been no detailed regulation of installation and maintenance practices for terminal equipment. Moreover, it seems doubtful that there can be much effective regulation of charges for carrier terminal equipment and maintenance where these items are bundled into the charge for basic service.

estimates as to the number of single line customers who would be unwilling or unable to repair their equipment, the industry postulates that it is "human nature" to postpone repairs as long as possible. Moreover, the industry believes that PIC would provide incentives encouraging prompt repair because the cost of maintenance is included in the monthly service charge, so the customer need make no additional outlay for maintenance, and the telephone company replaces a malfunctioning set, so the customer need not do without the telephone during repairs.

26. It has not been established that telephone company maintenance of telephone sets generally consists of any more than repairing or replacing the instrument when trouble is reported by the subscriber. CBEMA has submitted evidence, to which we accord some weight, that Pacific Telephone and Telegraph Company has no program of inspecting individual telephone sets periodically to see if they need maintenance, though some central offices do automatically scan lines and terminal equipment to detect actual or potential causes of trouble.[11] Since that telephone company's maintenance of telephone sets basically consists of responding to trouble reports and repairing or replacing the telephone as necessary and given the customary uniformity of practices and procedures among the various Bell System companies, it may be inferred that the Bell System generally has no program of preventative maintenance for telephone sets. Moreover, since PIC contemplates that the customer would be required to plug in the carrier instrument only when he is aware that the telephone company is testing, automatic scanning by the central office when any terminal equipment is not in use falls outside the scope of PIC.

27. The argument that independent equipment supply is apt to result in inferior or dilatory maintenance has been rejected by this Commission and other regulatory authority. The New York Public Service Commission (NYPSC), a party to this proceeding,[12] has found that the same quality of service is likely to result from customer telephones. As CBEMA points out, the Bell System Quarterly Reports to this Commission tend to show that carrier equipment is not superior in performance to that of outside suppliers from the standpoint of trouble reports. Moreover, we have found in Docket Nos. 20003 and 19129 that equipment maintenance and reliability, rather than deteriorating, generally have improved in the competitive equipment marketplace. *First Report in Docket No. 20003*, 58 FCC 2d at 736, 742 n. 8P; *Final Decision and Order on Phase II of Docket No. 19129*, 64 FCC 2d 1, 26-27, 40-41 (1977). We also recognized in Docket No. 19528 that business subscribers have a strong incentive to avoid interruption in telephone service (*Second Report in Docket No. 19528*, 58 FCC 2d at 743). Assuming the validity of the telephone industry's assertions that multiline and data subscribers have a more substantial investment in termi-

[11] While it is our understanding that some telephone companies operating in unusually heavy moisture areas, such as Florida, test telephone sets periodically due to this special problem, we are not aware of any general practice of this nature.

[12] Though we granted NYPSC leave to make a late filing of its reply comments on or before June 2, 1978, such reply comments were not received until June 8, 1978, together with another motion for acceptance of late filing. Recognizing the particular concern of state commissions and the special experience of NYPSC, and since consideration of its submission will not delay our decision, we will accept the late filing.

nal equipment and are apt to maintain a closer relationship with equipment suppliers, it does not follow from these circumstances that the single line business subscriber is less likely to have a malfunctioning terminal repaired. The crucial factor, it seems to us, is how essential is the terminal to the conduct of the business. We think it is reasonable to assume that any businessman who relies substantially on the telephone in the conduct of his business, and this should include most businessmen, will have a strong incentive to have a malfunctioning telephone repaired promptly to minimize harm to his business. We see no compelling basis for concluding that the single line business subscriber and those who communicate with him need Commission enforced protection by the telephone company on this score.

28. In considering residential subscribers, the potential size of the customer terminal market, and the adequacy of customer maintenance, we must proceed without any hard data. The telephone industry has declined to submit any estimate as to the size of the customer market on the ground that this information is proprietary. As indicated, the industry also professes to be unable to make any reliable estimate as to the number who would be unwilling or unable to repair their equipment. Since this information does not appear elsewhere in the record, perhaps these questions are unavoidably speculative at this point. The telephone industry states that under the post-*Carterfone* tariffs only 0-.018% of all main stations were provided by subscribers. We note, however, that the Registration Program has been effective as to main stations since October, 1977. We assume that there has been no substantial flood toward customer ownership of main stations in the intervening months to May 1978 when reply comments were filed in this proceeding. For, if that had been the case, we are confident from past experience that the telephone industry would have called such a circumstance to our attention. Since the telephone industry has supported its position in terms of assumptions and presumptions, our consideration of this aspect must necessarily consist largely of assessing the reasonableness of those assumptions against others that could be made. As NYPSC correctly points out, there is no evidence before us that customer ownership of terminal equipment affects the quality of telephone service.

29. While it may be reasonable to assume that some residential subscribers would postpone repairs to malfunctioning telephone sets as long as possible, it seems equally reasonable to assume that many others would repair defective terminals promptly. In the absence of any estimate as to the percentage that might be delinquent, we think it likely that those who would repair promptly would far exceed those who might not. In the current circumstances subscribers who choose to furnish their own equipment in lieu of taking advantage of the available option of carrier equipment and maintenance by this very act demonstrate a particular interest in terminal equipment and a willingness to assume responsibility for caring for it. Indeed, NYPSC postulates that some customers will take "better care of equipment and be more cognizant of timely repairs because of the vested interest and pride of customer ownership." Moreover, the very fact that telephone service is practically universal tends to show the critical importance of this service to most residential subscribers. We cannot presume that there would be many residential subscribers who would long permit

any disruption or serious impediment to their telephone service due to faulty terminal equipment while continuing to pay the carrier for a service that the malfunctioning terminal has rendered useless or substantially impaired.

30. Moreover, many residential subscribers are accustomed to being responsible for the repair of their own equipment which is necessary to the effective use of other important services, such as the furnace, the refrigerator, the television set, etc. As NATA points out, there are a variety of arrangements whereby independent suppliers sell or lease terminal equipment, including warranties and service contracts. Where a supplier has no provision for maintenance, the subscriber can resort to independent repairmen. While the telephone industry claims a marked advantage in that it replaces the faulty telephone, there is no showing in the record that independent suppliers or repairmen would not, or could not upon sufficient subscriber demand, loan the subscriber a working telephone to use while his terminal is being repaired. This argument is largely inapplicable to subscribers who own more than one telephone. Any service problem with independent suppliers and repairmen would probably be self-correcting in time, as we recognized in Docket No. 19528 (*Second Report*, 58 FCC 2d 742, n. 8). For, if it became known in the community that adequate repair service was not readily available either from the equipment supplier or from other repairmen, presumably very few subscribers would exercise the option to supply their own equipment in lieu of an instrument maintained by the telephone company. We think that this presumption applies also to subscribers in rural areas if independent repair service proves to be relatively inaccessible, as the Rural Electrification Administration believes. The subscriber's freedom to go elsewhere for terminal equipment, like the freedom to compete, inevitably bears with it some risk of economic loss or lack of satisfaction. He should not be denied his freedom of choice for that reason.

31. In this connection, it is pertinent that we are not determining whether subscribers should be required to lease basic telephone equipment from the telephone company or *required* to furnish their own telephone sets. There is no question in this proceeding of restricting in any manner the subscribers' option to lease basic telephone sets from the telephone company should they choose to do so. Many of the telephone industry's arguments in support of PIC could turn out to be significant selling points in persuading customers to use telephone company equipment in lieu of providing their own, particularly if they are so located as to make the telephone company offer appear more advantageous or if the experience in their area with independent repair service is poor. Assuming that the telephone industry's equipment, maintenance and repair service are as superior as it suggests, it should have little difficulty in persuading most single line subscribers of the merits of its competitive case. In that event, the incidence of customer-provided equipment would probably be so insignificant as to cast doubt on the necessity for regulatory intervention. On the other hand, if the telephone industry cannot succeed competitively without regulatory coercion, because the equipment and repair service of independent suppliers and repairmen are superior or less costly or offer other advantages, then the answer surely is not regulatory coercion but protection of the consumers' option, and indeed right, to select

what they think most beneficial. The important point is that subscribers now have available, at their option, all the asserted benefits of PIC without being subject to any mandatory requirement.

32. Turning now to the central question of impact on the public, we recognize that the industry's concern is directed not only to the subscriber who furnishes his own telephone set but also to those who communicate with him. As the industry correctly points out, telephone communication is two-way and may be adversely affected by the malfunctioning telephone set of the other party. Accepting the possibility of such public impact, we question the magnitude of the problem and the appropriateness of PIC as a remedy. Apart from the lack of evidence in this record as to what percentage of subscribers supplying their own equipment would be negligent about repairs, we anticipate no widespread danger to the quality of the telephone service available to the public at large. While all telephone subscribers have the potential to communicate with all other subscribers, it is physically impossible, if only within the constraints of time, for any telephone subscriber to communicate with all or even a large percent of the 60 million or so other subscribers. The more likely situation would seem to be that an ordinary telephone subscriber might, with varying frequency, communicate with a relatively small number of relatives, friends, business and other organizations, and perhaps receive a few unsolicited telephone calls. Relatives, friends and business or organizational acquaintances are in a position to exert considerable pressure on the owner of the problem telephone to have it repaired, if they feel that the technical quality of communication with him is unsatisfactory.

33. At the same time, we cannot discount the possibility that while individual maintenance problems would probably have small spheres of public influence, the cumulative effect of a number of such problems could be more substantial—though probably not of a magnitude such as to have any significant impact on the nation's telephone service. Fully recognizing the possibility of some public detriment, we are nevertheless of the view that PIC is not an appropriate means of protecting the public. If AT&T or any other telephone carrier were to initiate a PIC requirement, we would be obliged to find the requirement unlawful under Sections 201(b) and 202(a) of the Communications Act. For here, as in *Carterfone* and *Mebane*, what is entailed is an indiscriminate proscription of customer provided main stations without regard to whether the telephone subscriber would maintain his equipment properly or not. In the interest of protecting the public from the few who might not adequately maintain their telephones, PIC would infringe upon the rights of all those who would repair promptly and sufficiently and cause no detriment whatever to the public. We could not find it in the public interest or lawful to adopt a requirement which the telephone industry could not lawfully initiate, particularly since we have not been shown that there is no other remedy that could be targeted more precisely against those causing any problem. [13]

34. We consider next the telephone industry's claim that PIC is necessary for testing. The industry states that at least 12% of all telephones experience trouble each year, 40% of the station troubles

[13] For example, the telephone company might alternatively tariff a provision to the effect that service to any subscriber whose terminal equipment is maintained in such poor condition as to adversely affect the service of others will be suspended until the offending equipment is repaired. This would probably require a minor change in Section 68.3 of our Rules (definition of "harm").

involve components that may affect transmission and impair conversations, and 70-80% of trouble reports require a test of the line. There is no indication to the contrary in this record, and we will accept these statements *arguendo* for purposes of this proceeding. The industry further asserts that the single line subscriber must have on his premises, and pay monthly charges for, a telephone company instrument to enable the carrier to perform static and dynamic tests to ascertain whether any trouble is with the line or the telephone set. According to the industry, a subscriber set will not suffice for this purpose because it may not afford a recognizable line termination and, even if technically equivalent to a carrier instrument at the outset, may not have been properly maintained. The alternative testing measures suggested in the Notice (para. 10, D2.6) offer only partial solutions and might involve extra cost, the industry claims, whereas PIC would provide a complete answer to the testing problem.

35. It appears appropriate to clarify once again the extent of the telephone company's responsibility for testing in instances of subscriber terminal equipment. As we stressed in Docket No. 19528, telephone companies are "only responsible for the service which they provide" and in the case of customer terminals are "only responsible for providing adequate communication line service" (*Second Report in Docket No. 19528*, 58 FCC 2d at 741-742). Thus, the telephone company's testing responsibility is at an end when it determines that the line is functioning properly or it restores a defective line. The carrier has no responsibility for diagnosing what may be wrong with the customer's telephone set or how it may be causing transmission problems.

36. That being the case, we are inclined to agree with IBM's contention that the telephone company's testing responsibilities for ascertaining line-related problems generally do not require dynamic testing.[14] Accepting the telephone industry position that static testing requires a recognizable line termination, we are not persuaded that a known termination requires adoption of PIC. While PIC is one means of achieving a known termination, it seems unnecessarily broad to require the subscriber to pay monthly charges for, and house, a carrier telephone set which he may not otherwise use simply in order to afford a known termination in the event of testing, particularly since there are other ways of achieving a known termination which do not infringe consumer rights.

37. In the first place, Section 68.312 of the Rules limits the range of permissible on-hook impedance levels of ringers in registered equipment. We modified this section of the rules to accommodate AT&T's concern about standards compatible with static testing, in order to assure that the electrical characteristics of all ringers would be within standards acceptable to the telephone company, at least for certain static testing purposes. This, together with Section 68.106(a) of our Rules, should give the carriers access to specific information about the termination characteristics of customer telephone sets. As IBM asserts, there is little basis for assuming that ringers in customer tele-

[14] According to the telephone industry, "dynamic" testing is to evaluate the interaction of the telephone with the network to determine complete functioning service. Thus, the telephone company works with the subscriber to establish whether he can dial, receive ringing signals and converse satisfactorily. "Static" testing is a "snapshot" electrical measurement of the electrical characteristics of the pair of wires from the central office to the telephone set. Static testing, which requires a know'n line termination, is done while the telephone set is on the hook or in idle position.

phones would be less reliable over time than ringers in carrier sets, since the ringer is one of the most dependable of telephone components due to its passive electrical nature. North American Telephone Association (NATA) also states that references for testing purposes are as well known or knowable for customer sets as for carrier instruments, as shown by the experience of independent telephone companies who obtain telephones from diverse sources.

38. We see no intrinsic reason why a customer telephone set could not serve, or be made to serve, as well as a carrier set for testing purposes, though it may be more cumbersome for the carrier to ascertain the characteristics of a particular set in the absence of a uniform standard. Should the telephone carriers believe that uniform termination characteristics would be desirable or that additional uniform qualities are necessary for effective testing, we would readily entertain a petition for rulemaking to appropriately amend Part 68 of the Rules in these respects. Indeed, several other parties to this proceeding (CBEMA, IBM, Computer and Communications Industry Association, Telecommunications International Union, and American Petroleum Institute) have urged us to prescribe termination criteria and any additional qualities necessary for testing, so that independent equipment suppliers could provide a primary instrument which meets the specifications and all telephones—carrier and non-carrier—could participate effectively in testing. We consider this to be a much more reasonable approach than PIC to testing needs, if uniformity is in fact necessary. [15]

39. There appear to be other available means, aside from PIC, for determining whether trouble is in the line or the customer equipment. One means, suggested by IBM and made feasible by the increasing use of plugs and jacks, is for the subscriber to take his telephone set to a neighbor whose telephone line and set are in working order. If the subscriber's telephone works satisfactorily on his neighbor's line, he has reason to think that the problem is with his own line. Conversely, if the telephone gives problems on the neighbor's working line, the subscriber knows that he should seek repair service for his set. If still in doubt, he could borrow the neighbor's working telephone and try it on his own line. According to the telephone industry, 35% of single line customers had jacks at the end of 1977 and 85% will have jacks within seven years. Hence, this simple solution will become increasingly available.

40. Another possible method, where the telephone company is unable to tell through central office static tests whether the line is functioning satisfactorily, is to dispatch a telephone company repair truck with a carrier telephone set to the subscriber's premise and charge the subscriber for the house call. It is our understanding that some telephone companies already charge the subscriber where it is determined that the fault lies with the customer equipment and not with the line. A charge to the occasional subscriber who causes the expense would appear more reasonable than requiring all subscribers with their own terminal equipment to pay a monthly charge for a primary instrument

[15] We would also be willing to explore other testing alternatives, including those suggested in the Notice (para. 10, D2.6) which the telephone industry concedes might afford a partial solution, or the series jack suggested by IBM.

whether or not trouble arises or it is even needed for diagnostic purposes. Moreover, while the telephone company's responsibility does not extend beyond the line in the case of customer terminals, there is nothing to preclude it from voluntarily offering a diagnostic service in its tariff, so that the subscriber could call on the carrier and compensate it for diagnostic service if necessary, and then have any non-carrier equipment at fault repaired by the supplier or independent repairman.[15a]

41. In short, we are not satisfied from this record that PIC is necessary for testing or that alternative means for assigning trouble to the line or the set have been sufficiently explored.

42. Mindful of the industry's admonition that testing is only one aspect of the claimed social benefits which should be considered all together, we turn to the remaining assertions that PIC would serve as a reference set, aid in an emergency restoral of service, facilitate technological innovation in the network, and ease transition under the Registration Program. We are aware of the usefulness of a working reference point in diagnosing equipment trouble, as Tele-Tron Company graphically depicts in its comments. However, the reference point need not necessarily be a carrier telephone set. As IBM has indicated, it could be a neighbor's line known to be in working order or a working line at a repair center.[15b] Or if a subscriber owns two telephones, and one works, he may be able to use that telephone as a reference set. A subscriber with only a single telephone might borrow the neighbor's working telephone to serve as a reference set. Or he could take advantage of, and pay for, any diagnostic service voluntarily offered in the telephone company tariff which might include a carrier instrument to serve as a reference set. Under the circumstances, we conclude that PIC is not essential to the achievement of a reference point, however useful a reference point may be.

43. The industry states that PIC would aid in emergency restoral of service because the telephone company would have total responsibility for restoring all components of the service and the lack of a carrier instrument with known characteristics would hamper dynamic testing if that were needed to restore service to the customer's premise. We are somewhat at a loss to see how this bare statement, with no examples or other amplification, adds much to the industry's testing argument. Many emergencies, due to storms for example, must involve disruptions in the company's lines which surely can be restored by the telephone company without dynamic testing of every customer line. Moreover, it is conceivable that the efforts of multiple repair entities added to those of the telephone company might facilitate a faster restoral of service than the telephone company could accomplish alone. If dynamic testing of individual subscriber lines is required for some emergencies, then the necessary uniform characteristics could be included in the petition for rulemaking we have invited.

[15a] As was suggested in the Notice, much automatic test equipment which could be used for these purposes is already in use in central offices for telephone company installers and repairmen. Such equipment could be made available for more general use on a compensatory basis.

[15b] It should be noted that most repair orders are initiated by customers who telephone the carrier's repair service. If the subscriber's telephone is not working, he has to seek out another telephone to place a service call. Thus, his neighbor may already be involved.

44. Concerning technological innovation in the network, it is our understanding from our long regulatory association with this industry, that in introducing technological innovations into the network the industry has consistently been constrained by the characteristics of its enormous existing plant, and any changes which have had the potential for rendering unusable existing terminal equipment have been phased-in very slowly. AT&T alone presently has an investment of about 100 billion dollars in plant, and the total industry plant includes some 90 million telephones. Rather than planning technological changes which would require sudden widespread changes in central offices, or render large numbers of existing terminals unusable at once, AT&T and other suppliers of telecommunications services and equipment go to considerable lengths in the design and use of new technology so as to be compatible with existing central office and subscriber plant, as well as to cause changes thereto gradually. The major innovations which the telephone companies state they have introduced—inductive loading of cable pairs, common battery telephone exchanges, direct distance dialing, automatic message accounting, the 500-type telephone instrument, use of fine gauge wire in distribution plant, and electronic switching within central offices—have had varying potentials for rendering existing terminal equipment obsolete. In most cases these innovations were introduced in such a manner that they could co-exist with existing plant, and after passage of time their efficiencies were increasingly made available through usage of the new plant. Indeed, of these listed innovations, only the development of the 500-type telephone instrument involved a basic change to terminal design itself, and the increased efficiencies of this design, as compared with predecessor ones, allowed its use not only on all circuits where the predecessor telephones could be used (and could continue to be used after the new instrument was introduced), but also on more "lossy" circuits where the older telephones could not be used. The basic 500-type terminal design, and its network-interface parameters, have remained unchanged since that telephone was introduced around 1950. Moreover, although the telephone network itself has seen dramatic technological changes over the ensuing 28 years, these changes have been introduced in a manner which retains the network's compatibility with the basic 500-type telephone design. We find it hard to conceive of a new technological change in the network which would require immediate replacement of the telephone companies' 90 million telephones, or that would somehow be compatible with the carriers' telephones and not those of independent suppliers (which use the same network-interface parameters for their designs as the basic 500-type telephone). However, if the industry were contemplating an innovation which would be expected to render customer sets useless, it need not refrain from introducing that technological change for that reason. Of course, the telephone industry should inform independent suppliers as soon as practicable [16] concerning the timing and nature of the impending

[16] In the *Notice* (at D5.5) we inadvertently referred to Section 68.108 of the Rules, whereas the proper reference should have been to Section 68.110(b). The latter section requires the telephone company to notify the customer when it is making changes that would affect the customer's equipment. Similar notice, in major trade publications for example, could appropriately be given to equipment manufacturers. This section in essence requires that customers be given the same opportunity to maintain their telephone service uninterrupted as those using carrier equipment, where a technological development is phased-in which will render existing equipment unusable.

change so that they could manufacture, and their customers could buy, new equipment which would be compatible. While owners of obsolete equipment may face the choice of buying new compatible equipment or of again leasing a telephone company instrument, this is a risk which the customer assumes when he decides to furnish his own equipment. Of course, even if the subscriber were bound by PIC, this would not give him any protection against possible obsolescence of any other terminal equipment which he owned.

45. Moreover, this aspect of innovation must be considered in the broader context of innovation generally. We have repeatedly found that the competitive equipment marketplace has stimulated innovation on the part of both independent suppliers and telephone companies, thereby affording the public a wider range of terminal choices and other benefits.[17] See, for example, *First Report in Docket No. 20003*, 61 FCC 2d at 867; *Final Decision and Order on Phase II in Docket No. 19129*, 64 FCC 2d 1, 26, 40-41 (1977); *First Report in Docket No. 19528*, 56 FCC 2d 503, 601-602. In Docket No. 19129 we found that while the Bell System entities have been innovative to a substantial extent, "such internal innovation has frequently been undertaken or spurred only by the stimulus of competition" (64 FCC 2d at 41). The very fact that the telephone instrument has remained basically unchanged over the past 28 years, while technology in communications, computers and competitive terminals has been rapidly advancing, indicates that the public might well benefit from some competitive stimulus to telephone terminal technology. Some parties, such as IBM, Computer and Communications Industry Association, and Independent Data Communications Manufacturers Association, predict that single line subscribers, the largest communications consumer market, are about to be the beneficiaries of a breakthrough that would bring into widespread use home and small business data terminals, digital telephones, and terminals combining voice and data functions. These and other parties voice concern that PIC might make the supply of such terminals the exclusive prerogative of the telephone industry, as it seems unlikely that many homes would have more than one home data terminal.[18] In view of the wholesome effects of competition on innovation, the benefits accruing to the public, and the potential for significant new developments in home and small business terminals, we deem it contrary to sound public policy to restrict a large segment of the home and business terminal market from any real competition by diverse suppliers. We believe that there will be no significant impediment to innovation by the telephone industry in the absence of PIC, and that the stimulus to innovation and other benefits likely to flow from competition in primary instruments are of overriding public importance.

46. Finally, concerning the industry's argument that PIC would ease the transition under the Registration Program, we note first that PIC is not intended as a temporary measure. The industry expects PIC to continue indefinitely though, like any other rule or policy, it would be

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[17] Innovation and other benefits to the public have included the availability of new equipment features, improved maintenance and reliability, improved installation features facilitating the making of changes, the options of owning or leasing, and competitive pricing and payment options. *First Report in Docket No. 20003*, 61 FCC 2d at 867.

[18] The parties also point out that home data terminals would probably be portable and connected through voice jacks, thus falling within PIC under the definitions of the present industry proposal.

subject to review and modification by the Commission after a reasonable period. Rather than being transitional, PIC would permanently carve out a very large exception to *Carterfone* and the Registration Program, and in this sense constitutes a belated attempt by the industry to seek reconsideration of our decision in Docket No. 19528 not to exempt main stations. Even if the telephone industry were seeking a bona fide transition period or a phase-in of main stations, no good cause has been shown for such relief. Though the Registration Program has been effective since October 1977 for main stations, we have had no significant complaints from the telephone industry, consumers or anyone else about concrete problems.[19] Thus, either consumers are taking advantage of the primary instrument option of the Registration Program so gradually as to afford a kind of transition period or the Registration Program is operating so smoothly, despite larger numbers, as to make a transition period unnecessary.

Conclusions and Order

47. In sum, all of the social benefits claimed for PIC are now available at the subscriber's option without being forcefully imposed by the carriers or this Commission. Considering the telephone industry's asserted grounds for PIC, both individually and collectively, we find and conclude that there has been no showing of public detriment such as might warrant a mandatory requirement for a carrier instrument and interference with the consumer's present right to provide his own primary instrument if he chooses. Hence, PIC is patently inconsistent with *Hush-a-Phone*, *Carterfone*, and *Mebane* and, if initiated by a carrier, would be unjust, unreasonable and unlawful within the meaning of Section 201(b) of the Communications Act. We have already concluded that PIC would be unlawful within the meaning of Section 202(a) of the Act, if carrier initiated,[20] since it imposes a blanket prohibition against ownership of primary instruments by single line residential and business customers without distinguishing between those who would adequately maintain their own terminals and those who might not. The industry's failure to show that the bulk of single line business and residential subscribers would not adequately maintain their equipment also makes the proposed discrimination between these consumers and multi-line and data subscribers on maintenance grounds unreasonable and unlawful under Section 202(a). We would not adopt a proposal that would be unlawful if initiated by the carriers unless there were compelling public interest reasons for doing so. No such reasons have been established here.

48. Since PIC would also be contrary to the Registration Program, the industry seeks rulemaking to modify Part 68 of the Rules in this respect. We determined in Docket No. 19528 and elsewhere[21] that the public benefits from diversity in the supply of terminal equipment and that consumers for this further reason should have the option of furnishing their own terminals, including main stations. Among these benefits as found in Docket No. 20003 (61 FCC 2d at 867), are: the

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[19] Though some individual telephone companies have asserted a fear of economic repercussions, these have been in the nature of speculation or arguments on behalf of PIC rather than reports of actual instances of difficulties.

[20] See paragraphs 27-33 above.

[21] *First Report in Docket 19528*, 56 FCC 2d at 601-602; *Second Report in Docket No. 19528*, 58 FCC 2d at 740-741; *First Report in Docket No. 20003*, 61 FCC 2d at 867; *Final Decision on Phase II of Docket No. 19129*, 64 FCC 2d at 28, 40-41.

public's wider range of options as to terminal devices, competitive stimulus to innovation by telephone companies and independent suppliers, the availability of new equipment features, improved maintenance and reliability, improved installation features including ease of making changes, competitive sources of supply, the option of leasing or owning equipment, and competitive pricing and payment options. We considered and rejected the basic arguments of the telephone industry in support of PIC in those proceedings, concluding that they either lacked merit or were outweighed by the benefits of competitive supply. The industry has shown no new circumstances warranting any different conclusions or modification of our decisions in *Carterfone*, *Mebane*, and Docket No. 19528. We remain of the opinion that the proven and reasonably anticipated public benefits from the competitive supply of terminal equipment, including primary instruments, take precedence over the considerations urged by the telephone industry. If anything, this judgment is the more firm in light of potential developments in home and small business terminals and the heightened desirability of protecting the consumers' freedom of options in such circumstances. Accordingly, we decline to exercise our discretion to institute rulemaking looking toward the adoption of PIC.

49. Having determined that PIC is contrary to the principles of *Carterfone* and the Registration Program and that good cause has not been shown for initiating procedures to modify these principles, we believe it unnecessary to resolve other questions posed in the Notice.[22] Some comments nevertheless appear in order. CCIA particularly and to a lesser extent the Department of Justice have argued that PIC would be questionable under antitrust principles and precedents with respect to unlawful tying arrangements. Insofar as the telephone industry responds that there is only one "complete service," our rejection of this concept leaves the antitrust question without adequate answer. Thus, aside from *Carterfone* and our public interest judgment on communications grounds, PIC has antitrust uncertainties which would have to be more satisfactorily resolved before we could undertake to propose rulemaking.

50. PIC has other troublesome overtones. Of these we note only the contention of some parties that full and fair competition between carriers and independent suppliers of terminal equipment necessitates that local exchange rate structures be unbundled to provide separate charges for components such as exchange access, wiring, equipment and maintenance. Otherwise, they assert, customers do not have a fair choice, and may end up paying for equipment and maintenance which they do not receive.

51. In view of our disposition of PIC, we decline to explore such questions further in this proceeding. Moreover, we do not here have a sufficient factual record on which to base any decision. We therefore do not reach the telephone industry assertion that charges for carrier instruments used for both intrastate and interstate services, and such questions as credit allowances for customer-provided equipment and unbundling, lie totally outside of FCC jurisdiction and are exclusively the prerogative of state regulatory authorities.

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[22] The request of the Organization for Use of the Telephone, Inc. that we require telephone/hearing-aid compatibility can appropriately be pursued in the pending proceedings in CC Docket No. 78-80.

52. Accordingly, in light of all of the foregoing, IT IS ORDERED, That this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION,
WILLIAM J. TRICARICO, *Secretary.*